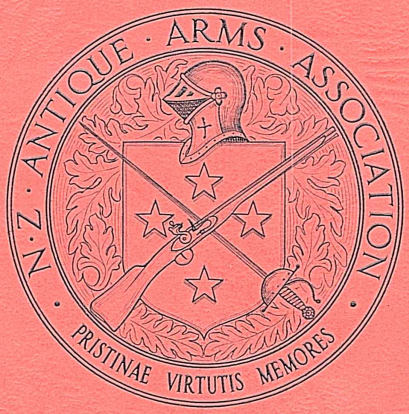
THE FIRST TEN YEARS



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THE FIRST TEN YEARS

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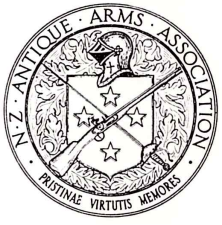
THE FIRST TEN YEARS

THE NEW ZEALAND
ANTIQUE ARMS ASSOCIATION
1959 - 69



CHRISTCHURCH — 1969

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Wreathed in smoke, past-president Les Perham was taking no changes as he applied the linstock to his cannon during an official shoot. This shoot, started as a gimmick, has become extremely popular with both members and spectators.

HISTORY OF ASSOCIATION

L. C. G. PERHAM

THE FORMING of the Antique Arms Association was prompted by several factors.

Ten years after the war, with the collecting of antiques booming throughout the world, it was evident that New Zealand would follow suit in this field. Although many private collections of arms were well established before the association came into being, the few who had these arms were constantly in fear of the strict arms laws of that time.

A display of arms was held in the old Manning Brewery building, Ferry Road, Christchurch, during the 1958 Industries Fair. This had been organised by the Canterbury Public Relations Officer, Mr Ted Beckett. The arms were drawn from the police, museums, and, to a greater extent, private collections. A register of names was kept for anyone who was interested and, from this, the nucleus of the association was formed.

In September, 1959, the inaugural meeting was held, with seventeen people attending, during which foundation rules for the Association were instituted. The keen interest shown was reflected in the fact that one man had travelled from as far afield as Dunedin and, subsequently, was elected to the Committee on which he still sits.

Since this date and, with the guidance of a strong, active committee, we have had the Arms Act changed on two occasions to suit the needs of our members. No longer is it necessary to hide priceless antique pistols and revolvers in secret compartments or on tops of wardrobes. What is even more important is the cessation of the destruction of the arms by the police.

Each year an annual general meeting is held. This includes a grand auction where members may sell their surplus arms, and an annual shoot where the cream of the weapons is to be seen.

It is interesting, at this point, to note that the first Graham King trophy shoot, our premier award, was won with only two hits being registered on the 18in disc. To-day an endurance test usually finishes on the 6in disc.

Much of our increased membership has been due to the various newspaper and television articles on our activities.

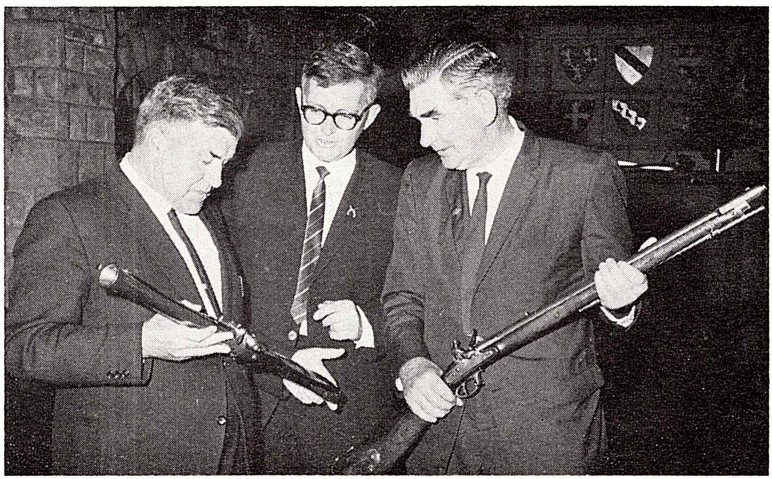
District secretaries have been appointed in all major cities and these have functioned extremely well, with local shoots and meetings being held in most areas.

The association has gained its strength and respect from outside

authorities, from the members themselves who, in the main, have made this society grow to its present strength.

Finally it has gained international status by affiliation with the International Federation of Societies of Amateurs of Ancient Arms, Uniforms, and Military Histories. This organisation, with headquarters in Turin, Italy, as its imposing name implies, is an international federation of antique arms societies and as far as is known we are the only association in the British Commonwealth which belongs to it. The federation's secretary, Dr Rafaele Natta-Soleri, is a member of the N.Z.A.A.A.

With the growth of the association has come the hardening of prices and indeed the difficulty of finding arms locally. However, members are now able to enjoy and see what other collectors have throughout the length and breadth of the country. This has led to better collections through exchange and a more realistic idea of what constitutes a good collection.



President Nev Smith (centre) gives the director of the Canterbury Museum (Dr. R. Duff) an expert countdown on a brass blunderbus. Dr. Duff is one of the association's patrons who, with Mrs Duff, was a guest of honour at the annual dinner. At right is the guest speaker, Mr M. A. Connelly, M.P., holding a flintlock Baker rifle. Mr Connelly has done much for the association at Parliamentary level.

WEAPONS OF THE NEW ZEALAND MAORI

BRUCE F. R. SCOTT

Photograph by Raymond Fineran from the Murray Thacker Collection

THE MAORI people probably attained the highest standard of culture of any Stone Age race during the 500 years they lived in isolation in the islands of New Zealand.

Migrating thousands of miles across the Pacific in their huge double canoes from about 1350 onwards, they brought with them to their new home many of the skills common to all Polynesians.

But during their period of isolation in New Zealand many of the traditional arts were modified and improved until, by the coming of the white man, starting with Capt. James Cook in 1769, they had developed skills in weaving and carving wood, stone and bone which make their artifacts works of art even today.

In his weapons, the Maori, a courageous fighter who engaged in war for the love of it, shared with other Polynesians a preference for close combat with spear and club. The bow as a weapon was unknown, though he knew of the principle of it, and applied it on a large scale for tree felling.

But he even rejected the sling, which was in common use among his Polynesian kin in the Pacific Islands further north, and which he must have known in his old homeland before his migration to New Zealand. His favourite weapons were the one-handed clubs (patu) in stone, bone, or wood, of superb workmanship, and the long, two-handed club.

His warfare, like most of his pursuits, was rigidly bound by complicated rules dictated by the omens of his gods and interpreted by the tohunga (priest), and in pre-European times the casualty rate in war was probably never very high.

The iron-bladed tomahawk and the flintlock musket, however, in the terrible years from 1820 to 1850 probably claimed more victims than did the traditional weapons in the whole of the history of pre-European warfare. It is estimated that 80,000 died in inter-tribal wars in these terrible thirty years before growing misunderstanding between the Maori and the white settler spelt finish to tribal wars and united the Maori against the pakeha (white man).

Of the patu or short one-handed clubs the most prized was the mere-pounamu, made of the beautiful New Zealand jade, or greenstone, which took several years to make and was thereafter passed on from father to son, acquiring mana with historic association. They usually had personal names and were endowed by their

owners with particular virtues. For example, the mere-pounamu of Te Rauparaha, the "Maori Napoleon" was called Tuhiwai and had the power to tell the future by changes of colour. If a weapon had lain on the corpses of successive owners, it carried their mana, and its loss caused great sorrow, while its return to the tribe was an occasion for celebrations.

Weapons of special merit or lineage were carefully wrapped and stored when not required, in carved boxes, or hidden in some secret place. The fame of a greenstone mere was at times so great that prisoners of war were known to ask to be killed by it, a request which any chief of dignity would grant only if he considered the prisoner worthy of the honour.

Greenstone, which varies in colour from deep green to almost yellow, is an exceedingly hard, durable stone, which was laboriously cut by the Maori by the friction of sandstone and water, or a flaxen cord impregnated with wet sand. Depending on the industry of the maker it could take years to make, and sometimes a mere was started by one man and finished by another.

As stone is an intractable material for any craftsman to work, the mere-pounamu was of a simpler form than the rest of the short clubs, though its mottled green surface, polished finally by years of rubbing on bare thighs in spare moments, made it a thing of beauty.

The end of the handle was pierced by a hole to take a loop of skin from the native dog. This thong was looped over the entire hand, or looped around the thumb of the owner when in use. This was because of the specialised use of the mere and all the patu, which were not primarily striking weapons, but jabbing or thrusting weapons.

The top of the blade was spatulate and sharpened to a fine edge, and in action it was used for stabbing or jabbing at the ribs or head of an enemy. Only for the coup de grace was it used for striking, and then it was usually the butt end. The dogskin loop was to prevent the hand of the owner from sliding up the weapon, and thus weakening the force of the thrust.

Next in order of popularity of the short clubs, or patu, was the wahaika. This sickle-shaped weapon was made of either wood or whalebone (paroa), an ever-popular material because of its strong texture and the crisp designs which could be carved upon it. With age it goes a rich, amber colour, smooth and mottled. On the inner-side of the weapon was a stylised human figure with the typical three-fingered hands of the Maori. This figure added mana or power to the weapon. The pommel was carved in the image of a human face. The striking edge was that on the opposite side to

the figure. The handle was pierced for a thong as with the mere-pounamu.

Next comes the violin-shaped kotiate, made of wood or whale-bone, but generally the latter. The only carving it bore was that on the pommel, which like the wahaika was in the form of a human head. There appears to be no reason for the indentations on each side of this weapon, though some authorities say that they probably made a blow from it more lethal.

Finally, there was the patu onewa, which was similar to the mere-pounamu, but made of blackstone, which was easier to work and therefore not valued so much by the Maori.

Of the long clubs, the taiaha was the pre-eminent weapon of the Maori warrior; frequently a taiaha opened an engagement and a patu was used to finish it. The taiaha also served the rangatira (chief) as an emblem of rank, and as an orator's staff when he was speaking at tribal gatherings.

Although the taiaha had a pointed end intricately carved, it was not a spear. The business end of the weapon was the long, flat blade, with a sharp edge which could kill or maim with one blow. The pointed end was actually a stylised tongue, out-thrust in a gesture of defiance of the enemy, and the owner grasped the weapon just above it. Usually, too, it carried a bunch of feathers and tufts of hair from the Maori dog as ornamentation.

The taiaha was in short, a sort of two-handed sword made of hardwood, and in the hands of an expert it was a weapon to be feared. Once, during the fighting between the Maori and the Pakeha, an English officer, a practised swordsman, fought a Maori armed with a taiaha, and lost.

Skill with this long club required constant practice in the numerous attacks, parries, and thrusts, and in quick foot and body movement. Footwork was particularly important, and an old proverb says: "He waewae timaha, he kiri maku", "Heavy feet, a wet skin", that is wet with blood. The point or "tongue" was used for a thrust at close quarters at times.

Thus, another proverb says: "Beware of the danger of the tongue of a woman in times of peace and the tongue of a taiaha in times of war." The precision of training, and the respectful attitude of the rangatira to the spirit or personality of his taiaha, may be compared with the sword-cult of the Samurai of old Japan.

Probably the progenitor of the long clubs, and certainly the simplest and the most effective was the pouwhenua. About five feet overall, the blade was long, fairly wide, with the distal end truncated or slightly convex, and the sides somewhat bluntly edged. It narrowed gradually through the shaft to about two feet from the

end, where the shaft was carved with a human head. It was generally heavier than the taiaha, and therefore deadlier and stronger, though the technique for use was very similar.

The last type of long club was the tewhatewha, an axe-shaped weapon which invariably leads the uninitiated to believe that the backward extension at the distal end was the part used to deliver the blow. This is not so, however, as the extension was merely to add additional weight to the head of the weapon, and the straight edge was sharpened for the purpose of striking. Like the pouwhenua, the staff was carved with a human head three-quarters of the way down. A bunch of feathers, or tufts of hair from the native dog were attached to the backward extension both as ornament, and to distract the eye of an enemy in action. Both weapons could be used as spears if occasion demanded, though they were mainly striking weapons.

The Maori did use a thrusting spear in warfare, but it was a purely functional weapon, usually not decorated with carving. Occasionally it was barbed.

It is of interest to note in passing that for centuries Europeans of all nationalities used the rifle or musket with bayonet attached as a stabbing weapon. It was not until World War I that he suddenly evolved the technique of using not only the bayonet, but the butt end of the rifle. The Maori, with his long clubs, did this for centuries, using the pointed end, or the striking edge as occasion presented itself.

With the coming of the white man the trade axe was soon converted by the Maori into a weapon. Mounted on a long handle, pointed at one end like a pouwhenua, it became a favourite weapon for close fighting, and was called the toki kakauroa. Mounted on a short handle it supplanted the patu to a large extent. Its handle was pierced for a thong like the patu, and the butt end was carved with a human head. The Maori, when pressed, showed considerable skill in throwing this weapon, which he called the toki-takaupoto.

The addition of European weapons to the Maori armoury was disastrous. The Maoris, after experiencing the better results obtained with firearms, were eager to be on the butt end of a gun. The possession of firearms became the absorbing purpose of life and traders were welcomed with open arms. The price of a musket was from five to eight hundredweight of dressed flax fibre.

The Maori showed a preference for the double-barrelled shotgun or smooth-bored musket rather than the rifle, because of its dual purpose. He used both weapons with ball or shot, and if he lacked

either, stone or small gravel. In the later wars with the pakeha he even occasionally used peach stones.

He showed considerable ingenuity in making his own wooden cartridges for holding the ready charge for his muzzle-loaders, and when his arm had a percussion lock rather than a flintlock, he made his own percussion caps. This was done simply by cutting the eyelets out of the lace holes of captured pakeha boots (he scorned footwear himself) and putting a match head in the centre so that it sat on the nipple of his gun. These caps were crude but effective.

In many cases he carved the butt of his musket with elaborate designs, and these weapons bring big money among New Zealand collectors today. The name given to the gun was pu, probably because it had a long tube (barrel) like the musical wind instruments named pu. The flintlock musket was named ngutu-parera, or duck's bill, from the resemblance of the cock holding the flint to a duck's bill. Bayonets on muskets were not generally favoured, but they were used by the old-time Maori on a limited scale by lasting them to wooden shafts as spears.

The old Maori weapons ceased to function long ago as a means of destruction, but as works of art they are retained by many families as heirlooms, or by pakeha collectors.

Long handled and short handled trade hatchets showing European influence
Brown Bess musket Dried Maori head

FIREARMS OF THE MAORI WARS

J. R. Lee

The Period of the Maori Wars, although it extended over only twenty-seven years, was the most eventful in the history of firearms. In these campaigns were seen the last of the pipe-clayed, red-coated armies armed with the flintlock weapons, which, except in detail, had scarcely changed for 200 years. But before the smoke of battle had dispersed, Imperial troops in New Zealand had given way to the home-grown blue-uniformed (or no uniform) Armed Constabulary, Militia and Volunteers, and the arms employed had developed through all the intervening stages to those using modern centre-fire and metallic cartridges.

The first shots were fired in the Bay of Islands in 1845, when troops of the 58th Regiment arrived from New South Wales, and having marched inland from Red Beach, Keri Keri, attacked Hone Heke and Kawiti at their pa at Okaihau. This arose out of Heke's many actions in defiance of British law, which culminated in the sacking of Kororareka in March 1845.

The arm on issue to the troops of 58th, 96th and 99th Regiments, which took part in this campaign, was the so-called "Brown Bess", or Tower flintlock musket, although the arming of some British regiments of foot with the smooth-bore percussion musket had commenced four years previously. The Tower flintlock weighed 10 lbs. 6 oz., without bayonet, and had a 42-inch barrel of .75 bore, but it is reasonable to assume that officers, who provided their own arms, had a variety of weapons, including Tower flintlock pistols and more fancy flintlocks, and percussion pistols of all kinds, as this system of ignition had been in common use for some years.

The presence in New Zealand of Collier flintlock revolvers dating back to this period is interesting. This efficient and well-made arm was patented in London in 1818 by Collier, a United States citizen, and although due to its inevitable complexity the pistol was not adopted by the War Department, it was produced in considerable quantity for private sale.

It was no doubt because of the remoteness of their service from the source of supply that the British troops in Heke's War were not armed with more modern weapons, and it is interesting to note here that it is on record that many Maoris in this campaign fought with percussion muskets, obtained from various sources, probably the most copious being American whale ships and New South Wales traders. But throughout the remainder of the Wars the arms of

the Maoris were generally quite inferior to those of the British and Colonial troops.

In the desultory fighting in the Hutt Valley, Porirua and Wanganui in 1846 and 1847 against Te Rangihaeatea and Te Rauparaha's people, the 58th and 99th Regiments, and a newcomer, the 65th, were engaged, and the author can find no record of any kind of weapon being employed there other than those used at the Bay. The 65th Regiment incidentally, practically qualified for New Zealand citizenship, as it remained here from 1846 to 1865.

During the subsequent thirteen years of peace until the outbreak of the Waitara land war in Taranaki in 1860, the arms of British troops underwent a considerable transformation. By 1860 Brown Bess had been succeeded first by the 1842 smooth-bore percussion musket, in which the only significant improvements were the weight and the ignition system, and then by the percussion Minie rifled musket, issue of which commenced in 1851. This rifle had a 39-inch barrel of .702 bore, with 4 grooves having half a turn in the barrel length, and was sighted from 100 to 1,000 yards.

The weight of the weapon, which resembled the 1842 smooth-bore in appearance, was 9 lbs. 8 oz. without the $15\frac{1}{2}$ inch triangular offset socket-bayonet.

Although a few 1842 smoothbores, 1837 two-groove Brunswick rifles, and Lancaster two-grooved rifles occur in New Zealand, they were not, to the author's knowledge, ever employed in action by troops here, but there is evidence that the Taranaki Volunteers and Militia, and the 65th Regiment, used the Minie rifled musket in the first Taranaki campaign in 1860. The newcomers to this theatre of war, the 12th, 13th and 40th Regiments, and others, may have been armed with this, or the later Enfield, but from this point onward, until the advent of the Snider, the Enfield, which will be described later, was the shoulder arm of the Imperial troops here.

There was no issue of pistols to infantry at this stage, but officers now had a bewildering range of percussion revolvers from which to choose. The spate of revolver inventions and production in England following the expiry of Colt's patent in 1851, was quite astonishing.

Recognition of the fact that infantry regiments and text-book tactics could not deal effectively with this sort of warfare, led to the formation of local Militia and Volunteer corps, such as the Auckland Rifle Volunteers, the Mauku Forest Rangers, the Pukekohe Forest Rifles, but another and more significant development was the raising in Auckland, under Major Jackson and Captain

von Tempsky, of two regular corps of Forest Rangers. A somewhat similar corps was formed at the same time in Taranaki, to where the King Movement had spread. The two Auckland corps were armed with bowie knives, Callisher and Terry carbines and Deane and Adams five-shot revolvers. Carbine versions of the Enfield rifle are also known to have been used by bush-fighting units, and the regular Imperial infantry was almost certainly fully equipped with the full-sized Enfield Rifle of 1853.

The British advance on the Kingite strongholds in the Waikato developed on a large scale late in 1863, and employed about 10,000 Imperial and Colonial troops.

The Maoris on both sides, on the other hand, had achieved no such uniformity or efficiency, and many friendly Arawas who fought in skirmishes in 1864 against Kingite Maoris on the East Coast, and against the Hau Haus in the Bay of Plenty in 1867, used Tower flintlock muskets. The disaffected tribes were little better equipped, and relied largely on single and double-barrelled percussion shotguns loaded with ball, and such weapons of any description as could be captured or otherwise acquired. Enfield rifles often appeared in the possession of rebels, who were, however, afflicted with a chronic shortage of lead.

Of the military weapons described, both the carbine and the revolver designs displayed significant advances. The 1853 Enfield rifle represented the muzzle-loader at the peak of its development, and apart from the bands which fastened the barrel to the stock in place of the older pins, its general appearance resembled that of the Minie rifled musket, although the forestock was somewhat more slender. It also had a lighter bayonet, but both weapons were fitted with Lovells side-action lock. The 39-inch Enfield .577 calibre barrel had three grooves, with one turn in 6ft 6in and the hollow base of the bullet was fited with a boxwood expander plug. The arm, without the bayonet, weighed 8 lbs. 8 oz., that is, nearly 2 lbs. 5 oz. less than Brown Bess. This was the last muzzle-loading arm officially issued in New Zealand, and many thousands of them were later converted into breech-loaders by adapting the Snider patent breech to them, so that Boxer centre-fire cartridge could be used.

The Callisher and Terry carbine was one of the best of the capping breech-loaders, a great variety of which appeared in the fifties. One of the experimental issues of 1858, it fired a breech-loaded paper cartridge by means of a conventional percussion cap on a nipple on the outside of the breech.

The 21-inch barrel had three grooves, having one turn in 36 inches, and the sights could be set up to 1,000 yards. The bore was 537, and the weight $6\frac{3}{4}$ lbs.

The Dean and Adams solid-frame five-shot revolver came in two calibres; .434 and .490 (54 and 38 gauge), and were respectively 11¾in. and 1ft. 1½in. long. Barrels were 5¾in. and 7½in., and the weights, in the same order, were 2 lbs. 6½ oz. and 2 lbs. 15½ oz. Both barrels had three grooves, and the smaller weapon appears to have been the commonest in New Zealand. The revolver was muzzle-loaded, and the ramming of the conical bullet was achieved by the use of Kerr's side rammer, which lay alongside the barrel, or the Rigby rammer which folded away along the side of the frame, below the cylinder. It could be operated either by single or double action with the Beaumont mechanism.

The Tranter was another solid-frame English percussion revolver issued to troops here. It was smaller, weighing 1 lb. 12 oz., and a common model had a 4½in. barrel. Calibres varied from .38 to .421, and a distinguishing feature was the double trigger. The lower trigger projected below the guard and its mechanical advantage was used to cock the hammer and revolve the cylinder, while a light pressure on the conventional trigger then discharged the weapon. It is on record that this feature was not at all satisfactory, as men in the heat of action at close quarters were inclined to tug vainly on the lower trigger only, which did not fire the weapon.

Colt's 1851 Model six-shot Navy revolver, a single-action, open-top percussion weapon, was also used by the troops in the Hau Hau war in the Bay of Plenty and Urewera. This well-known pistol was made by Colt in London, and was supplied to the British Government. Some 18,000 were taken into stock and issued up to late in 1855.

The close of the war in the Waikato and at Tauranga marked the reopening of hostilities in Hawke's Bay, Taranaki and Wanganui by the followers of the fanatical Hau Hau cult. From here onwards until after 1870, during the course of Te Kooti's rebellion, Terry carbines and Colt, Dean and Adams and Tranter revolvers comprised the principal armament of the Colonial troops. Both friendly and rebel Maoris had leaned heavily on percussion shotguns and obsolete weapons of various sorts, but the rebels now appear to have been better armed. The Hau Haus had many Enfield rifles, both in the Urewera and at Taupo, and in 1871, Te Kooti himself was known to have had an American Spencer carbine using metallic rimfire cartridges.

No Imperial troops were used in the field in New Zealand after 1865, because of the so-called "Self-reliant Policy", although they were employed on garrison service until 1870, when the last regiment left the country. All the fighting in the Hau Hau wars, and in Te Kooti's rebellion, was done by the Armed Constabulary and

Voltuneer and Militia units, and from 1870 onward, Maori troops only, with Colonial officers, were used against Te Kooti in the Urewera and Taupo districts.

The Wars petered out in the Urewera in 1872, after the rebels had suffered a series of crushing defeats. In the last stages of the campaign, the troops were issued with Snider breech-loading carbines firing centre-fire Boxer cartridges. These would no doubt be made-over 1853 Enfield rifles, converted simply by fitting the Snider hinged-block breeches, which were adapted to function with the old Lovell side-action percussion lock. Sniders manufactured as such, were later also issued in New Zealand.

This account has not, of course, described all arms which may have been used by officers, as their scope was extremely large. It is likely that most of the English revolvers were used here, as many examples are found. The larger pin-fires in New Zealand collections were no doubt also employed, as their production was contemporary with the Maori Wars. Other heavy English revolvers were Deane and Harding, Witton and Daw, Webley, Kerr, Westley-Richards, Beaumont-Adams, Adams and Egg, Bentley, Rigby-Tranter, Hollis, Conway, Harvey, Pennell, Long and others. Many of these are found in New Zealand, altogether with innumerable single-shot flintlock and percussion pistols and American arms, and it is reasonable to assume that many of these were privately owned weapons used for military purposes.

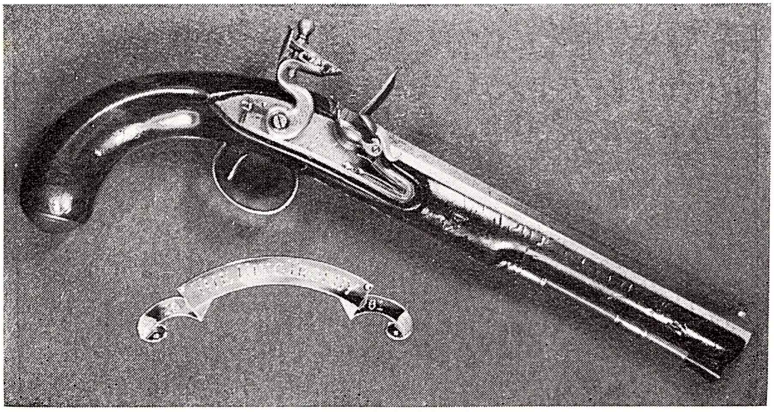
References are also to be found to the military use of the Westley-Richards (monkey-tail) carbine, which was another capping breech-loader introduced between 1857 and 1866. This had a flap hinged to the top of the barrel, which, when raised, exposed the breech, into which the bullet, with its paper cartridge attached, was pushed with the thumb. When the flap was lowered, the end of the plunger followed the cartridge, sealing the breech, and its rear end bore solidly against the standing-breech. As with the Terry, a felt wad assisted in preventing gas escape, and the weapon was fired in the same way, by a cap on an external nipple.

Some Whitworth .45 calibre hexagonal bore military rifles were apparently issued in New Zealand. They were issued in 1857 experimentally, and were very accurate, but the fine tolerances required in their manufacture prevented their general use.

Apart from the Waikato campaign of 1863-4, and the Gate Pa engagement in 1864, most of the Wars could be fairly described as hand-to-hand skirmishes and pursuits, although attempts were made by Imperial field-commanders in the Bay of Islands, and in Taranaki in 1860, to conduct hostilities in accordance with the text-books. However, there were a great number of engagements,

large and small, and the total of the casualties on both sides was almost 5,000, of which nearly 3,000 were killed.

British regiments of foot were stationed continuously in New Zealand from 1845 to 1870. They were changed and relieved from time to time but regiments present during this period were the 12th, 13th, 14th, 18th, 40th, 43rd, 50th, 56th, 57th, 58th, 65th, 68th, 70th, 96th, and 99th. There were also a Naval Brigade, Engineers, Artillery and other units.



The Graham King Trophy for genuine antique muzzle-loading shooting. This trophy, considered a premier award, is a Barton and Wogdon duelling pistol in a handsome, glass-fronted case.

SWEETS COMING UP!

Cyril Atkinson, one of the best-known members of the association, and the first president of the N.Z.A.A.A., recently had a request for the loan of a cannon. Although only too willing to oblige he took the precaution of inquiring what the cannon was wanted for. In doing so he probably kept the association out of world headlines, and saved several dozen children from a particularly sticky end.

For imagine his horror when the bright boy admitted that he wanted the cannon to shoot hardboiled sweets to children at a picnic as a variation of the time-honoured lolly scramble. One can just imagine the kids being mown down by a blast of lolly grapeshot.

ENGLISH PROOF MARKS

R. C. FINERAN

TO THE NOVICE the term "proof mark" may convey but little in relation to firearm collecting, but a study of this subject will be found both interesting and essential to the antique arms collector as it is by recognition of such proof marks that we can narrow down the period in which a particular gun or pistol was made as well as knowing its country and indeed perhaps its town of origin.

Now what does a proof mark on a gun or pistol really imply? It means simply this, that the firearm has been loaded and fired with a heavier charge than normal under supervision in a recognised "Proof House", that it has withstood this proof charge without bursting or other damage, and having passed this test, bears upon its barrel the stamp or proof mark of the recognised proof house.

Before 1637 the system of proofing was unknown in England but in that year by Royal Charter of Incorporation the gunsmiths of London were empowered and forced to test all barrels made within that city and outlying areas, before such barrels or guns could be offered for sale.

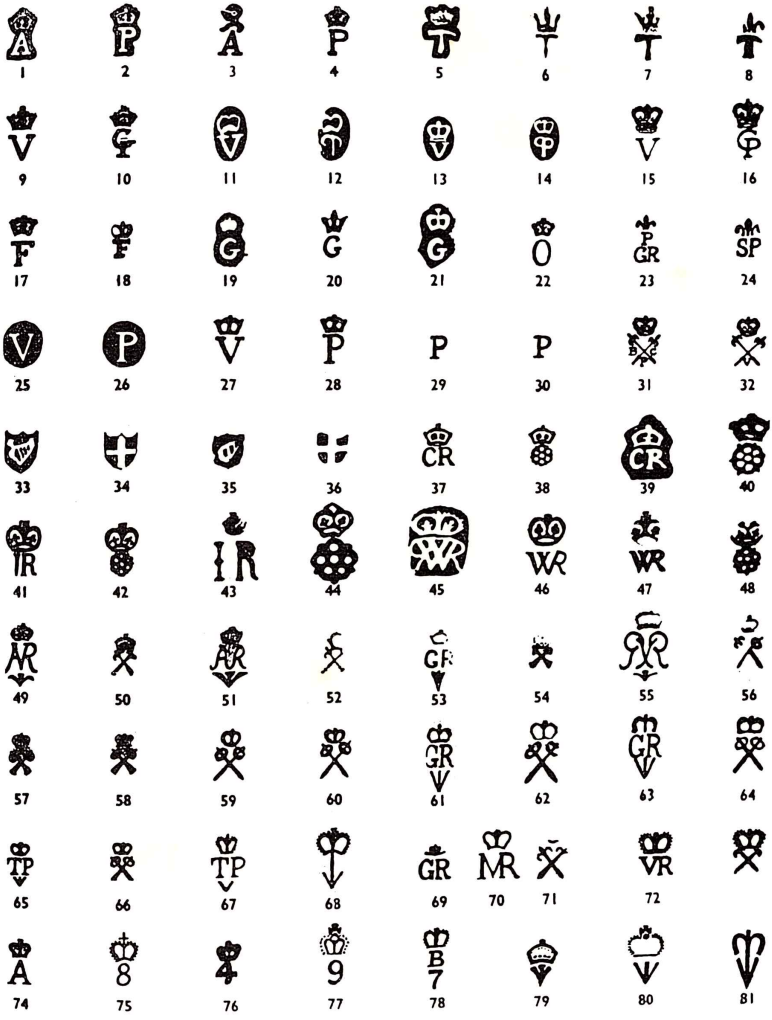
This legislation was brought about because a number of unscrupulous gunsmiths of that time were earning large profits by making and selling to the public guns and pistols which were both defective in construction and made from unsuitable materials. As often as not such barrels would blow up on the first shot being fired and the mortality rate was extremely high as a result. Fearing for their reputation the reputable gunsmiths of London banded themselves together and placed their case before Parliament, asking that they be recognised, and stressing the necessity of establishing an "Official Proof House" in London. This plea did not fall on deaf ears as can be observed by the preamble of the Royal Charter which was granted to these gun makers which was as follows—"that divers blacksmiths and others inexpert in the art of gun making had taken upon them to make, try, and prove guns after their unskilled way, whereby the trade was not only much damnified, but much harm and damage through such unskilfulness had happened to His Majesty's subjects." The company set up by this Royal Charter was to be known as "The Gunmakers' Company of London".

During the same period a large number of firearms were manufactured in Birmingham but in the absence of an "official" proof house in that area some "unofficial" proof houses started to function. Perhaps the best known of these was that of Ketland—a maker of

great skill and integrity. There was always great rivalry between London and Birmingham in the manufacture of firearms and the fact that the Birminghad proof marks were "unofficial" was a great handicap to the gun makers in that city, and while the system of "private" proofing operated in the trade for a number of years it was at last recognised as completely inadequate. The fact was that without authoritative direction or official backing compulsion could not be enforced. As well as this, many guns were still produced by "shady" makers who did not choose to submit their products to official proof. This applied particularly to guns manufactured for barter and exchange in Africa and other foreign markets. Such weapons produced by irresponsible people were frequently more dangerous to the user than to anything else, but a false value was attributed to them on account of the high esteem in which the Birmingham products were held. Largely because of this the reputable Birmingham manufacturers held a meeting in Birmingham in 1813 and the following preamble is recorded—"That as the gunmakers of the town and neighbourhood of Birmingham have laboured under unjust and injurious aspersions respecting the quality and safety of their work, in comparison with the London work, in consequence a Proof House having been established in London by Act of Parliament and there being no such establishment in Birmingham—although the guns manufactured in Birmingham have undergone as great or greater proof as given in London", etc., etc.

Through the untiring efforts of this committee a petition was finally presented to Parliament asking that an official proof house be established in the city of Birmingham. This was granted by Royal Charter, but much opposition was put in its way by the gun makers of London who still wanted the London proof houses to be the only recognised proof houses in the country. In spite of this opposition, however, it was decreed by Royal Charter in 1813 that an official proof house be established in Birmingham which would be known as "The Birmingham Proof Company".

The next step forward came in 1855 when a new Act came into force. By this Act both London and Birmingham were forced to act under a common Proof Scale Rule. One of the advantages of this Act was that from this date all barrels were stamped with a gauge number corresponding to the bore of the barrel. This was usually placed between the two Proof Marks. The numbers were from No. 1—which was for a barrel with a bore of 1.669in to No. 50 which was equal to a bore of .453in. It will be seen by this that any pistols with a bore of less than .453in would still have no gauge number stamped on the barrel.



BRITISH MILITARY FIREARMS
BARREL AND LOCK MARKS

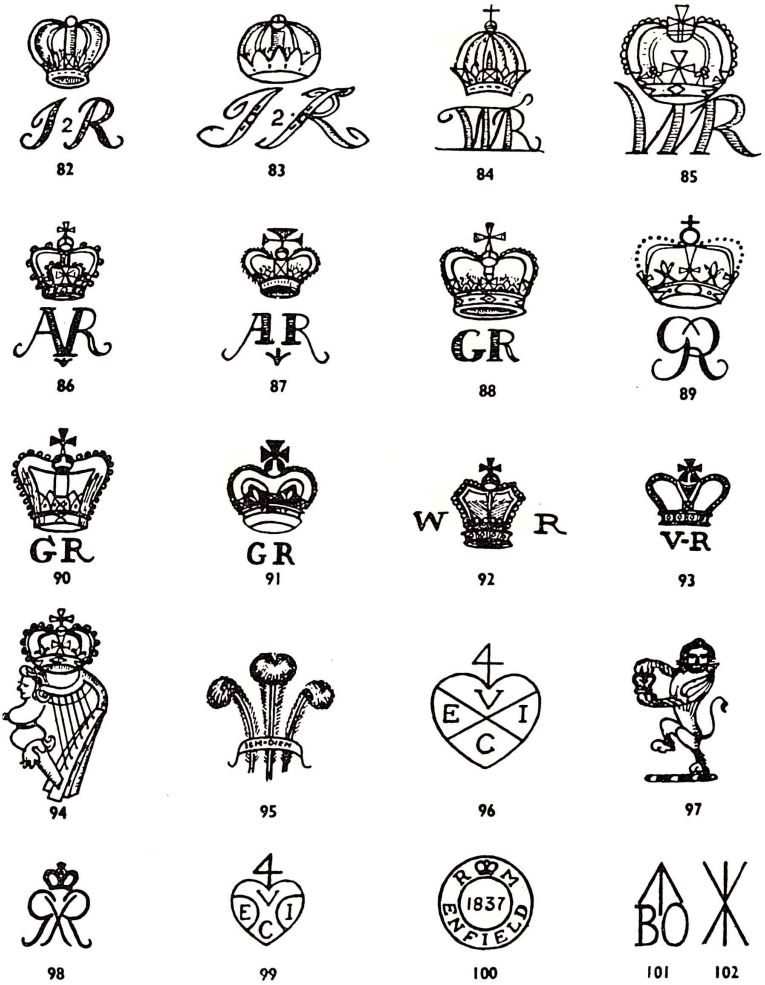
1,2 View and proof marks of the Armourers' Company.
3,4 Ditto. 1650-60.
5-8 Hammer and Crown marks of the Blacksmiths' Company.
9,10 View and proof marks of the Gunmakers' Company c. 1640.
11,12 Ditto. c. 1690.
13,14 Ditto. c. 1740.
15,16 Ditto. c. 1850.
17,18 Foreigner's mark of the Gunmakers' Company. 1741 onwards.
19-21 Ditto (?). An earlier mark.

22 A reconstruction of the O and Crown mark of the Gunmakers' Company for African guns.
23,24 Private view and proof marks of Ezekiel Baker.
25-30 View and proof marks of private Birmingham proof houses.
31,32 View and proof marks of the Birmingham Gunmakers' Proof House. After 1813.
33-36 Ordnance view and proof marks. During the Commonwealth.
37-40 Ditto. Reign of Charles II.
41-44 Ditto. Reign of James II.
45-48 Ditto. Reign of William III.
49-52 Ditto. Reign of Queen Anne.
53,54 Ditto. From a musket dated 1722.
55,56 Ditto. From a musket dated 1739.
57-60 Tower view and proof marks for private arms.
61,62 Ordnance view and proof marks c. 1790.
63,64 Ditto. c. 1830.
65,66 Ditto. c. 1835.
67,68 Ditto c. 1841.
69-71 Enfield view and proof marks c. 1840.
72,73 Ordnace view and proof marks. Reign of Queen Victoria.
74 Barrel viewer's mark 1835.
75,76 Ditto. Eighteenth century.
77 Ditto c. 1810.
78 Ditto. 1855.
79 Lock viewer's mark 1710.
80 Ditto. 1762.
81 Ditto. c. 1810.

I have mentioned proof marks in relation to civilian arms but in the case of weapons for military use several sets of proof marks may be found.

From earliest times up to 1852 all firearms made for Crown use were made by private contractors. Such muskets and pistols often bear the makers' proof mark and the military proof mark. Proof marks found on military firearms during the reign of George III and George IV up till 1860 consisted of a Crown over "GR" with "V" underneath. Also the crossed sceptre surmounted by a crown was used. This proof mark was not unlike the private proof mark of Ketland, but the military proof mark—the crossed sceptres—vary a little in design to that used by Ketland.

After 1852 most of the firearms made for military authorities were made at the Royal Small Arms factory at Enfield, and subsequently all these arms bear military proof marks. In times of war, however, the Government factory could not produce enough arms and large contracts were let out to private contractors. This applied to the present day. The most notable of these private companies being the B.S.A. Company which has made firearms for the Government from 1860 until the end of World War II. Many of the



BRITISH MILITARY FIREARMS
LOCK MARKS

82,83 Royal Cyphers engraved on lock plates. James II.
84,85 Ditto. William III.
86,87 Ditto, Queen Anne.
88 Ditto. George I. Musket dated 1715.
89 Ditto. Dutch made musket c. 1720.
90 Ditto. George III. Musket c. 1805.
91 Ditto. Musket c. 1810.
92 Cypher of William IV. Carbine dated 1835.
93 Cypher of Queen Victoria. Musket dated 1846.

94 Badge of Irish regiment. Dutch made musket c. 1720.
95 Badge of Royal Welsh Fusiliers. Musket made by James Freeman c. 1725.
96 Mark of East India Company. Musket dated 1793.
97 Ditto. Carbine c. 1810.

STOCK MARKS

98 Ordnance Storekeeper's mark. From 1770, normally has a date underneath.
99 Storekeeper's mark of East India Company. No. 96 also used.
100 Enfield Storekeeper's mark 1837.
101 Board of Ordnance ownership mark, superseded in 1855 by WD mark.
102 Obsolete, condemned or sale mark.

firearms made between 1850 and 1860 for military authorities bear only the proof mark of the London or Birmingham proof houses.

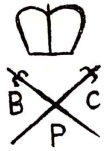
The East India Company had its own mark, and in most cases the guns made for the East India Company also bore the year of manufacture on the lock plate. Nearly all these firearms bear the private proof mark of the maker or the London or Birmingham proof mark, though some of their weapons were proved in the Tower of London proof house, and these bear military proof marks.

It was decided by the Proof Act of 1813 that the proving charge for barrels be four times the normal service charge. The barrels were proved first in the rough unfinished stage. If such barrels passed the first test the first proof mark was stamped on them This mark was a "V" surmounted by a Crown. The second proof was fired when the barrel was in the completed state, and on passing this test the second mark was stamped on it. In the proof houses the barrels were loaded with the appropriate proof charges for the particular calibre of each barrel. The barrels were then laid out in racks in parallel rows. A powder train was laid along the touch holes of the barrels and this was ignited by means of a flint-lock mechanism (and later a percussion mechanism), which was set off by a wire attachment from outside the building. To stifle the noise the building was heavily shuttered, and after firing these shutters were opened to let out the fumes. To prevent the barrels being damaged a deep layer of sand was laid under the racks as many jumped a considerable distance on recoil. It is interesting to note that while modern methods have been introduced in the manufacture of firearms, the methods of proving remain virtually the same as of old.

1637 LONDON MARKS

PRE-1813 BIRMINGHAM MARKS

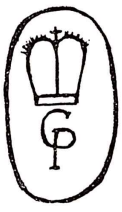
1672 LONDON MARKS



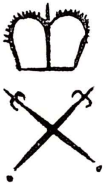
BIRMINGHAM PROOF COMPANY — POST 1813

1702 LONDON MARKS

BRITISH MILITARY PROOF MARK.
GEORGE III & IV REIGN 1760-1830

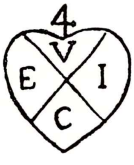


LATER TYPE LONDON UP TILL 1840



KETLAND PROOF MARK

POST 1840 LONDON MARKS



18th Century 19th Century
EAST INDIA COMPANY MARKS

CARTRIDGE DEVELOPMENT

D. P. LOCKE

THE DEVELOPMENT of the cartridge is linked very closely with the history of firearms, as in both cases their advancement was limited to the knowledge of the gunsmiths and engineers of their day. For instance, a pistol in the Tower of London, dated 1537, has a hinged breech block similar to the Snider of 1866, but the invention of 1537 did not develop any further because no way was known of providing a gas check at that period, and in consequence the gas blew back, to the great discomfort of the shooter!

When we examine a modern cartridge, so smooth and simple in appearance and so completely effective and reliable, it is difficult perhaps to understand why it has taken five hundred years to reach its present state of efficiency. In the first instance the powder and shot were completely separate, then the powder and shot were wrapped together in paper, then the paper became metal foil, then —through an improvement in non-fouling powder—the diameter of the barrels decreased and so the size of cartridge. Finally, primers were incorporated in the cartridge itself as more advanced methods permitted a solid piece of brass to be drawn into the cartridge case we know to-day.

It is impossible to give an exact date for the invention of the first cartridge, that is, powder and ball wrapped together in paper. However, it is known that such cartridges were in use prior to 1800 in Europe, while the earliest listed American cartridge was for a .69 flintlock horse pistol of 1799 and contained a 1 oz. ball. These early cartridges merely saved time in loading, and dispensed with the powder flasks, as the paper was first torn (with the teeth) and the powder was poured down the barrel, to be quickly followed by the paper and ball or bullet, which was rammed down with the aid of a ramrod. It is doubtful if these items could be classed as cartridges; they were simply a convenient way of carrying measured amounts of powder in a dry condition. It was, in fact, the next development which heralded the true cartridge era and this was known as the "combustible cartridge".

In appearance similar to the paper cartridge, the combustible cartridge appeared in many forms about 1810, but in its original state it was made of paper treated with nitric acid and processed to make it highly combustible when ignited by the flash of the priming cap or detonator. This cartridge was, in fact, a cylinder containing powder and projectile, but as the paper was extremely fragile after "nitrating", a protective covering of heavier paper,

encased the round. This paper was removed with the aid of a tear strip (usually a piece of linen tape) before loading. In point of fact it did not matter if the paper remained intact on loading as it ignited on the priming flash.

Many versions of this cartridge were patented, some with heavy paper, linen, or even skin cases; others with only one end sealed with nitrated paper. Such cartridges were much stronger than those composed of fully nitrated paper and collectors to-day, who are lucky enough to possess such specimens, will find them in quite good condition.

One of the most sought after rounds of this period is the .52 Sharps Linen used in the "Beechers Bibles" arm, the "case" being a linen cylinder with a nitrated paper base. Another interesting round was made by Hazards for the .44 Colt. This round-nosed bullet had the powder stuck on a peg at its base and this was built up in layers of varying combustibility, which gave a progressively burning charge.

About 1812, Pauly, a Swiss, developed what must have been the first centre-fire cartridge; although I can find no record of it being produced to any great extent and must conclude that it was either too far ahead of its time or it was unreliable. It was made of nitrated paper with a bullet and charge at one end, and sealed with a wad at the other. A hollow screw was inserted into the round and a priming charge was let into a recess in this. Another version of the Pauly cartridge is described as "a combustible envelope modern shotgun shell", but whether this was the same cartridge incorrectly described, or a later version, is hard to say.

The first self-contained cartridge used in any great numbers was the "needle fire", an early version developed in 1827 by the Germans. Experiments were undoubtedly taking place in many countries about this time and authorities differ as to the exact year in which this round first appeared. Certainly by 1846 the French were using needle guns, and there is quite a difference between the German and French rounds of this period. For example, the Germans favoured putting the primer in the base of the bullet ahead of the powder, while the French seated the primer behind the powder just inside the paper at the base of the round. Ballistics are not available to show the comparative performances of these rounds but it is recorded that the Frankfort arsenal experimented with front ignition in .5 machine-gun ammunition and noted a velocity increase from 2800 f.p.s. to 3000 f.p.s.

To overcome corroded firing pin faults in the long needle of the German-type gun, the Corliss needle cartridge had a dummy firing pin fixed inside the case, but as production costs were high for

EVOLUTION OF CARTRIDGES

MUSKET BALL 1471

GREENER BULLET 1835

MINIE CUP 1849

PAPER PRE 1600

BELGIAN PAPER

COMBUSTIBLE 1812

52 SHARPS LINEN

Nitrated Paper Base

SELF CONTAINED 1827

ELEY NEEDLE FIRE

PATENT IGNITION 1836

PINFIRE

RIMFIRE 1845

.44 HENRY

SEPARATE PRIMED 1848

MAYNARD

CENTER FIRE 1858

40-50 SHARPS

this round it did not find favour with the authorities and was little used.

During the next ten years various means of ignition were incorporated into rounds, the most outstanding being the pinfire, credited as a French invention in 1836. In early versions of this round there was a combination of a cardboard case and a brass base, after the style of the modern shotgun shell. This was a natural development at a time when arms were shot by means of the hammer action, but it was strange that the French did not adopt this round to any great extent.

Extraction of spent rounds presented many difficulties in early breech loaders and some odd means of removing the cases were tried. In some instances the cases had lugs fitted on one side of the base to enable them to be extracted; others had a cord or wire attached to the base of the round.

The year 1848 saw the advent of the B.B. cap, which was once again a French invention. In this round the copper shell contained only fulminate and a small lead ball. This opened up quite a field of "rimfires" and many different versions were in use during the next few years. While most countries were quick to see the advantages of this round, some did not favour a complete rim and instead made do with a "bump" on one side only which contained the fulminate primer.

Although Pauly invented a centre-fire round in 1812, it was not until 1858 that this round came into general use and it was 1866 before Britain converted the Enfield to the Snider breech loader. Early "centre-fire" cartridges were adaptions of the rimfire case.

By now we have arrived at the point from which the modern rounds of today were developed. Primers had proved to be a reliable source of ignition if used in small quantities, while the invention of smokeless powder in 1855 and cordite in 1892 were huge steps forward in the evolution of the cartridge.

Perhaps the greatest single step forward was the invention of the one-piece drawn brass cartridge case, as it was only by means of this container that the inventions and improvements covering a period of five hundred years could be used effectively, with complete safety and control, and without any loss of gas or other defects.

FOUR CENTURIES OF BRITISH GUNS

W. KEITH NEAL

(Reprinted by kind permission of the Author and "The Times", London)

THE TRADITION of British gunmaking goes back at least 400 years. The making of small arms was encouraged by Henry VIII, who imported skilled gunsmiths from the Continent and set them to work in the Tower of London. At this early period it was chiefly military muskets and carbines which were produced, but by the time of Charles I certain highly skilled gunmakers in London and elsewhere were making best quality sporting guns for the nobility and gentry.

The reign of the "best" gunmaker had begun in England and a domestic market for fine firearms had been created. Until this time the limited demand for luxury firearms had been supplied by France or Germany, who led the world in their production. As a result, British gunmakers were faced with considerable opposition and had a long struggle to reach supremacy.

It was in the reign of Charles I that an important event occurred in our gun-making history. The gunmakers who had no guild of their own applied for a charter, and this was granted by the King in 1637 under the name of Master, Wardens and Society of the "Mistery" of gunmakers of the City of London. This comprised sixty-two gunmakers, who were empowered to form this company, with Henry Rowland as their master. The Worshipful Company of Gunmakers still continues today, being one of the very few City companies which still carry out the work for which they were chartered. They are still legally responsible for the proof of firearms and the protection of the public against unsafe weapons. The mark of G.P. under a crown, which was first used over 300 years ago to mark those guns which have passed proof, is still used to-day.

INGENIOUS METHOD

The popular sporting gun of the present day is normally a double-barrel weapon with the barrels arranged side by side. A few guns are made on the under-and-over principle but these are in the minority. The first double sporting guns made in England were, however, on this under-and-over principle, and an example made by Harman Barne, of London, shows a best gun of the day. The method of firing was ingenious. The barrels were made to turn on a pivot, each barrel being turned into position by hand and fired with the same lock. The barrels were not soldered together

as in a modern British gun but pinned into the wooden stock. This gun is about a 28 bore and the barrels are 32in. long. It weighs 7½lb., yet it balances and "comes up" with just that magic that the modern British gunmaker is so famous for to-day. Harman Barne was recognised as the most skilful gunsmith working in London at this time. He made guns for both Charles II and Prince Rupert. He was in advance of his time.

It is recorded that Prince Rupert, on the occasion of the Royal Army halting at Stafford on September 13, 1642, showed his skill as a marksman by firing with a rifled screw barrel horseman's pistol at the weathercock on the steeple of St. Mary's Church. He was standing some sixty paces away. His first shot struck the tail of the weathercock. His uncle King Charles, who observed the shooting, declared that such a shot could only be a lucky chance, whereupon Prince Rupert immediately repeated the shot with his second pistol. Pairs of pistols identical with those used by Prince Rupert, having Royal associations, exist, made by Harman Barne, and there is little doubt that it was with a pair of Barne's pistols that he shot at the weathercock.

GAME PRESERVATION

With the introduction of pheasants as wild sporting birds into England, and the greater preservation of game generally, the demand for fine sporting guns increased. By the time of Queen Anne elegant long-barrel fowling pieces mounted entirely in silver or engraved steel became the standard gentleman's sporting gun of the eighteenth century. This was a great period for the gunmakers. The single-barrel gun was far more popular than the double, although many gentlemen now owned matched pairs of guns, the second gun being carried by an attendant, who also did the loading.

Little has been recorded in contemporary books of the gunsmiths of this period, but many examples have survived to bear eloquent testimony to their skill. It was the outstanding London makers such as Barbar, Griffin of Bond Street and Twigg of Piccadilly who, in the latter half of this century, did so much not only to give England a world-wide reputation for fine guns, but by their thought for the future trained such artists as the Mantons, whose names became household words and in their turn handed on the "mistery" to such men as James Purdey the first and so on, always increasing their skill until the reputation of an English gun became a legend all over the world. That this skill is still maintained in spite of the changing conditions of the present day is something which every sportsman has good reason to thank the skill and determination of the modern gun trade.

The first quarter of the nineteenth century was the hey-day of the Mantons period. The two brothers, John and Joseph, vied with each other for supremacy. John, the elder, was more popular with the Royal Family and turned out consistently good work over a long period. Joe had a rather more spectacular career, his rise to fame was meteoric, and there is no doubt he had a touch of the genius. At the height of his career no one could touch him, and his name lives on as one of the most famous gunmakers of all time.

An excellent example of John Manton's work is shown in the double gun with side-by-side barrels. It was made for Frederick, Duke of York, about 1800, and bears his initial and Royal cipher on the stock. The name "Manton", London, is set in gold letters down the rib of the barrels and the flash pans and touch holes are lined with pure gold. Yet it is in no way gaudy; severe elegance with perfect line and balance, carefully selected material in both wood and metal, and superb craftsmanship have combined to produce this work of art in gunmaking. Although made over 150 years ago, in proportions it comes very close to a modern gun. The barrels are 20 bore and 31in. long, the weight 6¼lb. Its effective range would differ little from a modern gun of to-day.

Although there was no choke boring at the muzzles, the secret of recess boring was known, and patterns equal to an improved cylinder in a modern gun were obtained. The use of the slower-burning black powder and rather longer barrels gave most regular shooting.

INDIVIDUAL SKILL

Sport was not so hurried as it is today. There was the added skill of loading and choice of powder, shot, and wadding. Much depended on the individual skill of the shooter in this respect and certain tricks of wadding, setting the flint, and so on gave the clever shooter an advantage. All these points, like dry flies to an angler, added greatly to the fascination of the sport of those days. But the days of the flintlock were passing, and by the time Queen Victoria came to the throne most sportsmen were armed with percussion cap guns. By the time of the Great Exhibition of 1851 the breech-loader was making its appearance, and then that greatest invention of all, the gas-tight centre-fire cartridge, followed to make shooting the safe and easy pastime which it is today.

And how has the great tradition of British gunmaking stood up to the test of time? The answer is that today England still produces the finest hand-made guns in the world. London and Birmingham, the two principal centres of the trade, once such rivals, now work

much more together to produce the best. The London makers have always specialized in the very best and highly finished guns made to the individual measurements of the shooter; they still do, and the best market is in London for such. Yet the very best is turned out in Birmingham also, although it is naturally true that there is a greater proportion of standard and utility guns made there. Many of these plainer guns are still largely hand finished, and although lacking the finely figured stock of a best gun, or the elaborate engraving and finish, they are nevertheless well made, strong guns that will shoot perfectly, throw a good pattern, and generally perform well and stand up to plenty of hard work, even though they may not have the sleek lines of the thoroughbred.

What of the production line gun? How does this compete with the hand-made best gun of today? The answer is simple, neither competes with the other; they never have. It is purely a question of supply and demand. For every sportsman who can afford a best hand-made gun there must be twenty or more who must be content with the machine-made article. The latter can be bought straight off the peg, and it can be produced in such quantities that the supply can always equal the demand. It must be remembered that whatever the cost of a gun, or how it is made, it must still undergo precisely the same test of proof. It must be sound and strong or it cannot legally be sold.

But in reply to those who deprecate the idea of giving several hundred pounds for a best gun it should be remembered that the craftsmen employed by these gunmakers require both high wages and indulgence, and it is just this high-water mark of hand-made skill that has, over the years, given to Britain the reputation she justly deserves. The demand for best guns is to-day greater than the supply. They cannot be made quickly and six months from the time of the order to completion is a fair average.

Learning to be a skilled gunmaker entails five years of apprenticeship to begin with, and the greatest skill comes only with years of practice.

KNOW YOUR SWORDS

C. K. ATKINSON

"Draw not your Sword but to serve the King,
preserve your Honour, or defend your Life."

IT IS UNFORTUNATE that so few books have been written on the subject of sword collecting and the general history of the sword, though many delightful and instructive books are procurable which deal with "specialised" sword collecting. In consequence the "would be" sword collector finds himself at a great disadvantage, for while he remains fascinated by swords, he is confused and dismayed by the strange conflicting terms associated with these arms, and by the odd mixture of curved, straight, flat, triangular, long, and short blades which somehow become attached to an equally diverse assortment of spectacular hilts.

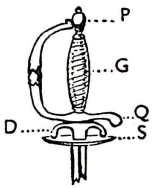
The following brief notes and terms have been transcribed from various sources in an effort to sort out some of the difficulties encountered by the novice, but as space is limited it must be understood that these can only serve as a bare outline to a very large and captivating subject. What then is a sword?

If we consult a dictionary we will find that the term "sword" is a general one and signifies a hand weapon made of metal with a long blade. Sometimes knives are confused with swords but, in general, it may be said that knives have much greater breadth compared to the length of their blades and therein lies the difference.

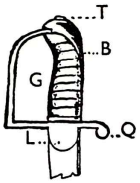
Little is known of the origin of the sword but it is thought to have derived from the dagger, as both flint and reindeer antler daggers have been found which date from the Neolithic period of man. However it is known that for more than 2,000 years the sword has been the emblem of power and chieftainship, while the advent of chivalry brought it to its full glory. By 1150 it had attained complete symbolism and the cross hilt became a protection against sin and a reminder that it must be used in protection of the Church, while its two-edged blade stood for truth and loyalty.

Between 1500 and 1000 B.C. the sword developed simultaneously in Crete and Celtic Britain and was then cast in copper or bronze. Used as a thrusting weapon it had a straight edged or leaf shape design. However, because the metal used was soft, such swords had to be sharpened frequently, and this changed their shape to acutely tapering spikes. The hilts of such swords were riveted to flat shoulders on the blades, and many fine examples of these early weapons can be seen in European museums to-day.

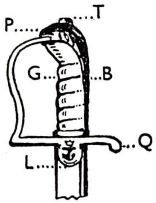
Hilts



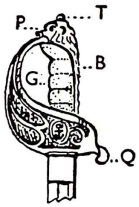
Small-sword Hilt



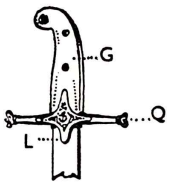
Knuckle Bow



Stirrup Hilt



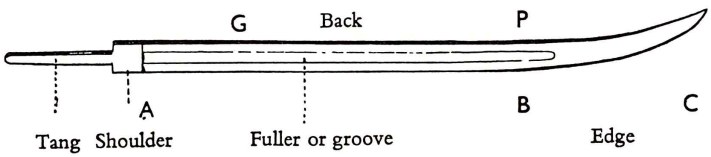
Half Basket Guard



Marmeluke Hilt

T. Tang button
L. Langet
P. Pommel
G. Grip
B. Back-piece
D. Pas d'âne
Q. Quillon
S. Shell

Blade



During the Iron Age (1000-700 B.C.), the sword blades were no longer cast, but forged, and the tang or narrow rod extension of the blade was made in one piece. This tang ran through the hilt and was turned over and riveted at the top. However, due to the nature of the metal used, the connection between the hilt and the blade was always weak when subjected to lateral stress, and so it was customary (and often necessary) to stand on one's sword to straighten it—even during the battle!

As this was the age of chariot-using people, a greater reach was necessary; consequently all blades tended to become longer. These new blades were rounded, spatula shaped or even square at the tips, but were never pointed. They were known as "Halstatt" swords (950-450 B.C.) and were worn with full scabbards. Such scabbards were made of wood, covered by leather, and lined with

fur. Halstatt swords were worn high on the chest—to clear the upper rim of the chariot body, and to draw them from the scabbards it was necessary to hook the large curved chapes against the back of the leg.

During the Roman era in Britain (1st Cent. to 378 A.D.) the blades in use were short and spatula shaped. They were chiefly thrusting weapons. (Note Roman advice—"Shorten your sword and widen your Empire.") The Goths, who subsequently broke the Roman power, fought in tight formations on heavy horses, and wore protective armour of helmet, mail, and shield. Their weapons were long lances and broad swords, and this method of fighting continued for the next 1100 years. Here it is well to pause and note that the weapons and method of fighting of the defeated have no appeal to the victor, and this is as true today as it was two thousand years ago! Consequently the blades of the Goths became the accepted European pattern, though in time they were gradually lightened and tapered and more and more frequently used in the thrust with the passing years.

However, the real power of the thrust was still unknown, and it was not until the sixteenth century that a well-proportioned and well-mounted cut-and-thrust sword was in general use.

Quite distinct from European swords is the crescent-shaped Asiatic sabre, commonly called the "Scimitar", which owes its origin to a scientific fact. It had been known for some time that the cutting action of a curved blade in delivering a blow presents an oblique and highly acute angled section of the blade to the object struck, and added to this, the cut comes more easily to the unskilled in battle, to those on horseback, or riding at speed. Such undoubted advantages convinced many of its superiority over the straight blade, though the thrusting sword could claim many more fatal wounds on any battlefield and few who received the point returned to fight again.

The sixteenth century witnessed the division of the sword into two distinct types, one for military use, and one for use by civilians. About this period it became fashionable for civilians to wear swords as part of their normal dress (if belonging to the upper classes), so the heavy and cumbersome two-edged sword in common use became lighter, narrower and more pointed, until it evolved into the "rapier"—a weapon used chiefly for thrusting. Thus the Roman preference for the point was rediscovered, and the art of fencing was born. Meanwhile, for military use, a stouter and broader blade was fashioned, so gradually the single-edged broadsword prevailed and was adopted for battle purposes.

A later development of the rapier in the seventeenth century

was the "Small Sword". This, like the rapier, was a civilian weapon, elaborately ornamented and designed primarily for thrusting. In this case the blade was short, light, and triangular in cross section. This deadly little weapon went out of fashion about 1775

Royal Cyphers

George I, II, III

George IV

William IV

Victoria

Edward VII

George V

Edward VIII

George VI

Elizabeth II

Royal Crowns

Georgian Pattern

Tudor

St. Edward's

when the wearing of swords by civilians was discontinued, except in court circles and in the presence of the King.

The present military swords are descended from straight-back swords or eastern scimitars. Shapes have varied with time because of the impossibility of deciding by trial which is best. It will be understood that swords can only be used to cut, to thrust, or to parry; the rest depends on training of horse, or horsemanship, and the dexterity of the adversary, but the arms used in battle have never been the main cause of success. This point was well illustrated in the eighteenth century when the Ottoman cavalry were acknowledged to be the best in Europe and within a decade most nations had copied their weapons, but with a singular lack of success!

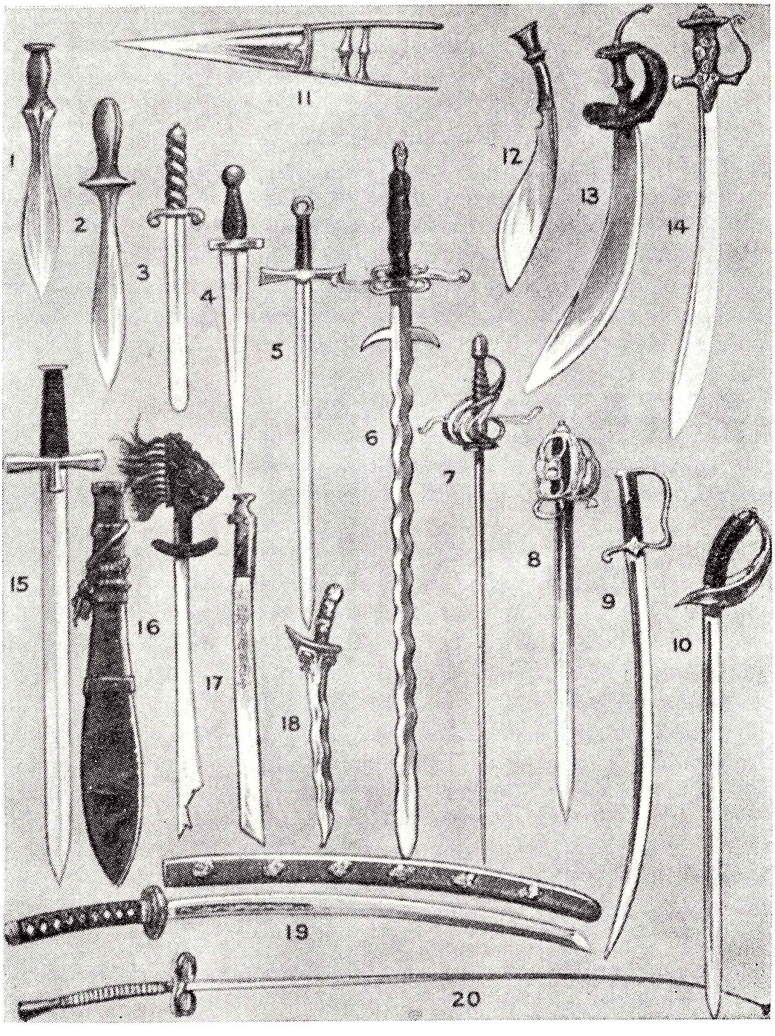
Blades made for hewing, cutting, piercing and stabbing, are of two kinds; the one elastic, and the other non-elastic. The first kind are usually used for making small swords, sabres, foils, etc., while the second is required for making of knives, lances, pikes, halberds, etc.

There are many examples of swords and sword-bayonets to be found around us today and these fall into two distinct groups—(a) straight blades such as the rapier, small sword, and claymore and (b) curved blades, as in the antique cutlass, military back-sword, sabre and also the eastern tulwar, scimitar, and yataghan.

For convenience these types are often referred to as the Toledo blade and the Damascus blade, though they may not have emanated from either of these places. Incidentally, many so-called "Toledo" blades came from Solingen in Germany, while the majority of Damascus blades in later years came from Persia. The collector will also be surprised to discover that a large quantity of British swords—both military and civilian—have German blades, though the hilts, scabbards, and other ornamentation have their origin in England.

Now a cautionary word on the subject of scabbards. The scabbard is made to fit the sword and is not interchangeable, so never force. When drawing or returning all cutting weapons—particularly all Eastern weapons—there is always a risk that the sharp blades will shear through the scabbards leaving the holder short of a few fingers! The fact that the blades may be old and rusted is all the more reason to treat them with respect.

Finally, may I submit to my fellow collectors that it is generally acknowledged that no collection of antique guns is really complete unless accompanied by contemporary swords, just as no collection of swords is really balanced unless the daggers, bayonets, muskets and pistols of the contemporary period can also be displayed.



Numbers 1 to 10 show the development of the sword from the most ancient known examples to World War 2.
Numbers 11 to 20 are more modern weapons of various nations.
1 Bronze Age. 2 Greek. 3 Roman. 4 Norman (about 1066). 5 Crusader. 6 Two Handed 15th Century. 7 Rapier 16th Century. Swept Hilt. 8 Basket Hilt Broadsword. 17th Century. Scottish. 9 Cavalry. 19th Century. French. 10 Cavalry. 20th Century. English. 11 Dagger. Mahratta. 12 Gurka Kukri. 13 Talwar. Indian. 14 Scimitar. Persian. 15 Sudanese sword and scabbard. (Often called "Crusader" sword). 16 Timor sword. Malay Archipelago. 17 Machete. Central America. 18 Kris. Malay Archipelago. 19 Samurai. Two Handed sword. Japan. And scabbard. 20 Fencing foil.

RAPIER. A long thin-bladed sword designed especially for thrusting. Originally designed in Spain, spreading to Italy and appeared in England in second half of sixteenth century.

POMMEL. The (frequently) knob-like protuberance of the grip furthest from the blade; serving as the blade's counterweight, and as a lock for the different parts of the sword.

PAS D'ANE. A rudimentary hilt of a rapier. Designed to protect the right forefinger which was passed over the quillons to afford better control.

CLAYMORE BLADE. This term has been used for straight double-edged thrusting blades with one or more grooves, similar to the blades of modern so-called 'claymores' of the Scottish regiments.

FALCHION BLADE. Is a curved blade which slightly increases in width at the maximum of the curve near the point.

HANGER. A term used by eighteenth century writers to denote (indifferently) any edged weapon worn by such people as sailors and others accustomed to go armed, but having no claim to gentility. Two essentials of a hanger are that it should have a cutting edge or edges, and that it should be worn suspended perpendicularly from the side of the body when not in use.

YATAGAN. A Turkish sabre or scimitar with an incurved Damascus blade, frequently etched, and a pommel spreading in large wing-like projections.

TULWAR. An Indian sabre, a class name including virtually every curved sword in India.

TANG. A portion of the blade to which the hilt is attached.

SWORD BREAKER. A notch or raised piece paralleling the blade, by which the opponent's blade may be caught and broken.

SMALL SWORD. A late development of the rapier, reduced and simplified in the late seventeenth century.

SCIMITAR. A curved-bladed sword characteristic of weapons used in Turkey and Persia. Introduced into Europe during the Turkish invasion of the sixteenth century. The curved sabre with which Western cavalry regiments in the nineteenth century were armed derives directly from Eastern examples of the scimitar.

SCABBARD. A sheath in which a cutting or thrusting weapon is contained when not in use.

SABRE. A cutting sword sharpened on its convex side, primarily designed for cavalry use. Occasionally sabre blades are straight, but generally the blades are curved to improve cutting capabilities.

RICASSO. The base of the blade, i.e., the squared area just below the hilt. The ricasso has no edge.

NOTABLE GUN DATES

(Based on a History of Firearms, by Major H. B. C. Pollard)

1247 The first record of the actual use of gunpowder in Europe is a statement by Bishop Albertus Magnus in 1280 that it was used at the Siege of Seville in this year.

1267 Roger Bacon gives an account of gunpowder in his Opus Majus*.

1327 Edward III used cannon against the Scots.

1364 Hand cannon had appeared in the field of battle during the reign of Edward III.

1394 Hand guns were known in Italy and in England they appear to have been used even earlier.

1424 The first mechanical device for firing the hand gun made its appearance.

1425 We hear of armour being penetrated by bullets and the hand gun showing signs of becoming a weapon capable of rudimentary precision.

1485 Henry VII organized the corps of Yeomen of the Guard, half of whom were to carry bows and arrows while the other half were equipped with harquebuses. This represents the first introduction of firearms as an official weapon of the Royal Guard.

1498 Rifling invented.

1509 The first wheel lock or "rose lock" was invented about this time.

1535 Firearms were recognised as hunting arms as early as 1515, and a book (Ballestes Mosauetas y Arcabuces Pablo del Fucar, Naples, 1535) on sporting firearms appeared in this year.

1540 The hair trigger was invented in Germany.

1560 The invention of the typical Spanish lock is attributed by some writers to Simon Macuarte the Second, about this year.

1580 The snaphaunce lock, the forerunner of the true flintlock, was invented about, or considerably earlier than this time.

1630 The standard flintlock gun came.

1631 The rates of pay for repairs and new arms were fixed.

1637 The London Gunmakers' Company initiated proofs when it was first incorporated, but it is not clear whether private proofs or a trade proof-house common to the Company was used. (A crowned A was given as the mark.)

*Actually his account was written in cryptic form. See Read, J., Explosives (Pelican Books, 1942).

1640 A screw or cannon barrel pistol came in.

1640 The bayonet was introduced by the French; it was a long, narrow blade with a wooden plug handle and was simply dropped into the muzzle of the musket.

1672 The London Gunmakers' Company enjoyed powers which enabled them to enforce proof when the second charter was granted in this year.

1680 A ring attachment was added to the bayonet so that it no longer served as a muzzle plug.

1689 The earliest known English breech-loading rifle was made by Willmore, who was apprenticed to Foad.

1690 The "Brown Bess" was known in Ireland as a "King's Arm" from its use by William at the Battle of the Boyne.

1690 The whole British army was equipped with flintlocks.

1700 Snaphaunces continued to be made on the Continent until about this year.

1702-14 In the reign of Queen Anne the "Brown Bess" was known as the "Queen's Arm" in Ireland.

1710 The socket bayonet had appeared and was adopted in the British service.

1714-1830 The letters G.R. were adopted as a mark in the reign of George I (1714-27) but successive Georges did not add any variant.

1714-27 The broad arrow as a sign of government property was adopted during the reign of George I, and the word TOWER is marked on the lock plate of many of these arms.

1718 The French established their arms factories at Charlesville, St. Etienne and Maubeuge.

1730 The large box lock type of pistol made its appearance.

1730 A few hammerless flintlock sporting guns were made by Stanislaus Paczelt, of Prague in Bohemia.

1746 The French introduced the double-necked hammer and the steel ramrod.

Note: The double-necked hammer or cock was not a new invention, for it is often found on dog locks of 1670 and other early arms.

1750-65 The use of pistols for duelling purposes became general as the practice of carrying the rapier or small sword died out.

1760 The duelling pistol was entirely unknown until about this year.

Note: Meetings were fought with horse pistols before this date.

1760-75 The horse pistol shows a marked development into the true duelling pistol from about this year.

1763 No official pistol was issued by the French before this.

1763 The French introduced the muzzle band with a funnel or guide for the ramrod and acorn sight integral with the band.

1777 Duelling pistols became officially standardised weapons when it was laid down that they should be 9 or 10 inch barrelled, smooth bore flintlocks or $\frac{1}{2}$ inch bore, carrying a ball of forty-eight to the pound.

1780 The top rib in double-barrelled guns appeared.

1781 Spring bayonets are common to blunderbusses and pistols of the period subsequent to the date of the patent (John Waters, Pat. No. 1284) in this year.

1789 The first patent for single trigger locks for double arms (James Templeman, Pat. No. 1707).

1789 Single trigger pistols, with side by side, and also under and over barrels, were made by Egg.

1790 The acorn pattern trigger guard extension toward the barrel used up to about this year.

1790-1800 The duelling pistol approached perfection.

1792 Joseph Manton's first patent (No. 1865) introduces the "break-off" breech, into which the barrel fits with a lump instead of being secured by a tang and screw as previously used.

1798 Barrels with a number and the letters D.C. (Dublin Castle) were personal arms registered at Dublin Castle after the rebellion and disarmament of Ireland.

Note: As the act was in force for some years it is only of relative value in dating pieces and indicates that the piece is before 1798.

1800 The duelling pistol was customarily full stocked down to this year.

1800 Pistols appear to have been seldom used in the East before this.

1800 The swivel ramrod attached to the piece by a stirrup appeared.

1800 The first "Baker Rifle" was issued.

1800-10 The half stocked pistol with the lower rib beneath the barrel fitted to carry the ramrod came in.

1807 The second "Baker Rifle" was introduced.

1807 Alexander Forsyth patented the detonating or percussion principle.

1810-20 The revolving principle is as old as firearms, but manufacturing methods permitting sufficient accuracy of workmanship and precision of boring for a really safe cylindered or chambered weapon date from about this period.

1811 The first serious military breech loader was an American invention, Colonel John H. Hall's patent.
Note: This was made first as a flintlock, then as percussion, and is the first breech loader officially adopted by any army. The flintlocks were made till 1832, the percussion model from 1831.

1814-16 The copper percussion cap is not definitely alluded to in the patent records till 1823, but appears to have been invented in this period.

1815-25 The saw handle was very popular, both in flint and percussion pistols.

1820 The true flintlock revolver is the very rare weapon made by Collier about this year.

1820 Flints were converted to percussion cap, and the flint principle started to lose favour.

1825 The percussion cap came into universal use on private arms.

1826 The Delvigne (French) service rifle was invented.

1830 The third "Baker Rifle" was issued about this year.

1831 The Robert rifle was invented by Robert, a gunsmith of Paris.

1831 The needle fire cartridge was patented by Adolph Moser.

1834 The percussion cap system of ignition was tested at Woolwich as a service weapon.

1835 Coach pistols supplied to the guard of public stage coaches are extremely rare, but were made with flintlocks and brass lock plates until about this year.

1835 Percussion cap locks fitted with a pierced platinum disc below the nipple gradually fell into disuse and are seldom found in arms after this year.

1835 The rim fire cartridge evolved naturally out of the percussion cap, and was first made by Flobert of Paris, a maker of saloon arms.

1835 Colt claimed the ratchet motion, locking the cylinder and centre fire position of the nipples as particular points of his specification.

1835 The Enfield percussion carbine .65 inch calibre with a hinged spring triangular bayonet folding below the barrel was made for Constabulary service.

1840 The true pin-fire cartridge emerged about this time. But it was not until 1840 that we definitely find a breech-loading needle gun cartridge patented. (Wm. Bush, Pat. No. 8513.)

1840 The Brunswick rifle superseded the Baker model.

1840 Duelling began to decline in Britain.

1840-50 The period of decadence of duelling was marked by the production of rather short barrelled pistols.

1842 A few Service arms were converted to the percussion cap system in 1839, and it was officially adopted in this year though the service percussion musket was mainly experimental until 1844.

1845 A double-barrelled 26½ inch barrel, .67 inch calibre arm was issued for constabulary use.

1848 The Prussians concentrated on experiments with the needle gun in 1844, and it was used in the war of 1848.
Note: The device was largely perfected by Dreyse of Sommerda, in 1831.

1850 The shot-gun or fowling piece began its separation from the musket in the latter half of the 18th century and divorce was completed by mid 19th century.

1850 The Minie (English) service rifle was introduced.

1851 Minie patent for the self-expanding bullet was purchased and adopted by the British Government for the Enfield rifle.

1851 Muzzle loading was so unassailably established we do not find a single breech-loading cartridge weapon shown by a British firm at the Great Exhibition.

1851 Colt delivered a lecture on Colt revolvers before the Institute of Civil Engineers during his visit to London.

1852 Charles Lancaster brought out his central fire under lever gun with extractor and the first true centre fire cartridge.

1853-57 Colt procured a factory at Thames Bank, Pimlico, London, and produced replicas of his standard pistols marked on the barrel "Address Col. Colt, London" during the period.

1853 The Pritchett bullet, a plain lead cylindroconoidal plug with a shallow base depression, was selected as the best type of bullet for the new Enfield rifle.
Note: Later this was superseded by the Enfield bullet.

1854-56 During the Crimean War, 25,000 Enfield rifles were made in America.
Note: This war was the last in which all combatants used muzzle loaders.

1855 The Government established Enfield as a Government factory when the Birmingham gun-makers struck for higher wages in the middle of the Crimean War.

1857 Whitworth rifles were produced.

1857-58 Duelling continued in India to the date of the Mutiny.

1859 The first recorded European revolver for centre fire cartridges appears to be that patented by Perrin and Delmas.

1860 The first effective and widely used magazine repeater was undoubtedly the Spencer carbine, patented in the U.S.A. in this year.

1860 Tyler F. Henry brought out the Henry rifle.

1860-65 In the American Civil War, both breech and muzzle loaders were used.

1861 The true centre fire cartridge as we know it today did not appear till exhibited by G. H. Daw at the Exhibition of this year.

Note: It was the patent of Pottet, a French gunsmith.

1861 Breech loaders were coming into general use.

1863 The first centre fire repeater appears to have been Ball's carbine made by the Lamson Arms Co., Windsor, Vermount, U.S.A.

1863-64 For all practical purposes, metallic cartridges were not widely introduced until this period.

1866 The first cartridge repeater shot-gun appears to have been the Roper of this year.

1866 The Snider service rifle was issued.

1866 The Henry was merged in the Winchester.

1866 Claims have been made for an American origin for choke boring, but these have never been proved, and there is no doubt that it was the invention of Pape of Newcastle.

1868 Duels were fought in Ireland till as late as this year.

1869 The Martini-Henry rifle was issued.

1869-71 The first European magazine military arm was the Swiss Vetterli rifle.

1870 In 1866, the Chassepot was authorized and all branches of the French army were equipped with the weapon by 1870.

1870-71 The Franco-German War was almost entirely a breech-loading affair.

1871-72 The first true hammerless gun appears to have been that of Murcott.

1874-75 The first bolt action military repeater seems to be the Edge rifle (Pat. No. 3643).

1879 Lee patented his box magazine.

1866 The French adopted the Lebel rifle.

1886-87 The Gras-Kropatschek rifle was issued for the French Marine.

1887 Winchester repeating shot-guns were first introduced.

1887 The Maxim was officially adopted in the army as a machine gun.

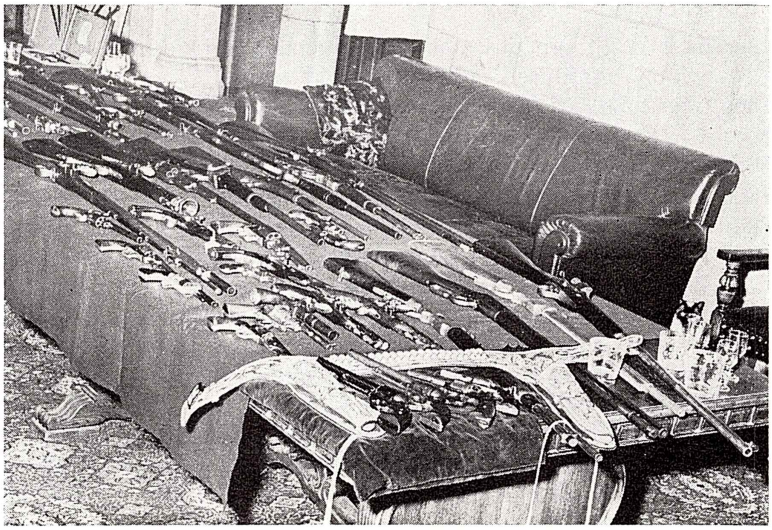
1888 The Lee-Metford rifle was adopted by Great Britain.

1893 The first automatic weapon to appear on the market was the Borchardt pistol.

1894 The Bergmann pistol appeared.

1894 The first Mannlicher automatic pistol was introduced.

1898 The Mauser combination automatic pistol or carbine, the wooden holster serving as a stock attachment, was introduced.
1898 The Browning automatic pistol of .32 inch calibre, made its appearance about this year.
1903 All automatic pistols were of small bore until this year.
1903 The Winchester Firearms Company brought out the first widely sold automatic rifle.
1905 The Webley self-loading .455 inch pistol was adopted for the British Navy.



Many mouths watered and hands itched at the sight of this collection of assorted antique guns which was an added attraction at the annual dinner at the Sign of the Takahe, Christchurch. Items ranged from early Colts and a Yellow Boy Winchester to cased flintlock pistols and a pair of genuine Deringers. How much am I offered for the lot?

CUT OUT THE BULL!

Some people are a bit slow to get the message. Several years ago there was an arms safety display in Christchurch, and the N.Z.A.A.A. had a display in the same building. One of the items in the firearms safety display was a scene including a very bloody body lying inert in the undergrowth with a rifle nearby.

"What's happened to him, do you think?" asked one woman.

Her husband studied the display for a moment, and enlightenment came in a flash.

"Oh, he's been gored by a bull," he explained.

RIGBY; GUNMAKER OF DUBLIN

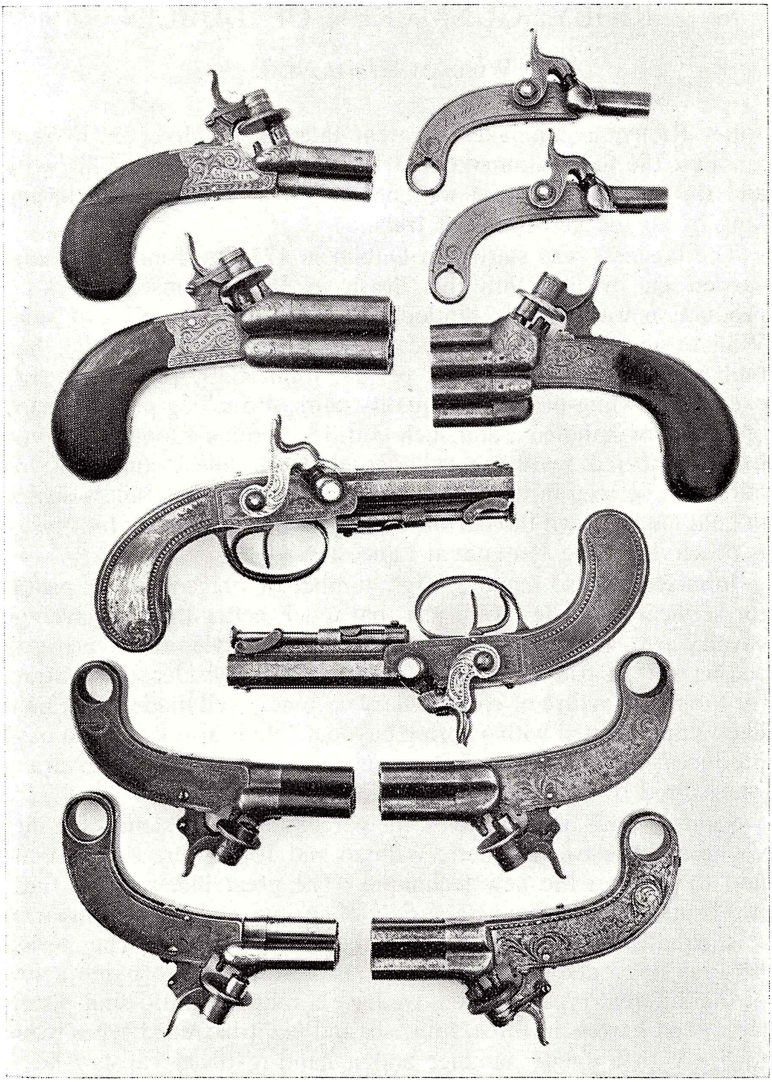
WILLIAM KEITH NEAL

JOHN RIGBY, a gunmaker of great talent, well deserves to rank amongst the finest gunmakers of his day. The quality of his work and the great diversity of weapons which he produced made him king of all the gunsmiths in Ireland.

The business was started in Dublin in 1775 by John Rigby and carried on by him until his death in 1819. Consequently, his production was entirely flintlocks. It remained for his two sons, William and John, to continue the tradition that their father had built up. During the flintlock period, John Rigby produced many excellent fowling-pieces, fine quality pairs of duelling pistols (many of them saw-handled), and such oddities as duck's foot pistols and four-chambered revolving cylinder guns. A fine example of the latter can be seen in the National Museum in Dublin, boldly signed in gold letters down the barrel. A very well made duck's foot pistol is preserved in the Museum at Lancaster.

John Rigby also made a large number of rugged holster pistols for service use. They were just that much better than the average cavalry arm, and invariably had Rigby's own style of flattened grip ending with a fish-tail butt. He also had a considerable contract for the manufacture of constabulary carbines, well made, workman-like weapons fitted with a spring bayonet. He is also known to have produced blunderbusses of good quality, and airguns of the variety which fired by compressed air.

Soon after his death in 1819, the percussion cap system came into vogue and the two brothers, William and John, were amongst the first to develop the new technique. The great ingenuity of these two brothers in producing a variety of curious and unusual firearms was equalled by no other gunmaker of their day. The period between 1820 and 1830 was the most fertile, and to name a few of the different types evolved, we have a range of multi-shot pistols with fixed barrels in three, four, six and eight-barrelled types made to fire with a single hammer and a hand-revolved capstan head. This range of pistols all had screw-off barrels. They were either made entirely of steel with the ring in the butt, which would take a lanyard, or could alternatively turn the weapon into a kind of knuckle-duster; or else they had the conventional wooden stock, but always with the flattened sides and fish-tail butt which had become a typical Rigby feature. This same system was employed to a lesser extent in long-arms and a heavy calibre four-shot weapon is illustrated in John George's well-known book, "English



top left:

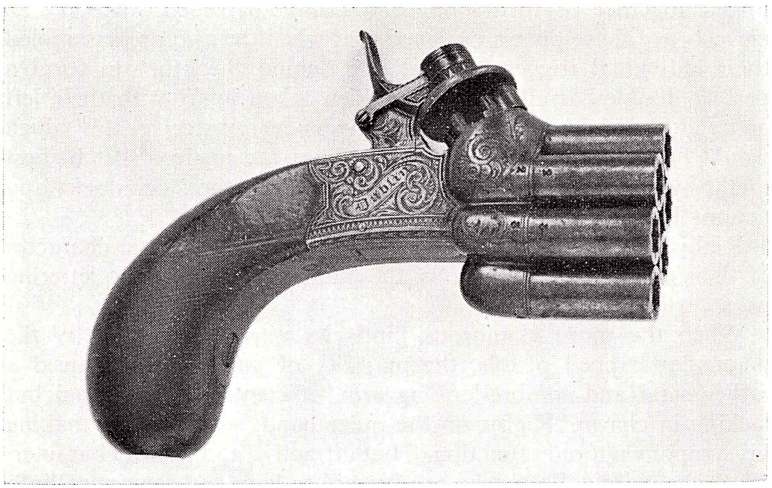
Three barrel wooden stock
Four barrel wooden stock
Double barrel to take into two
Four barrel metal stock
Three barrel metal stock

top right:

Pair all steel pocket pistols with ring wrenches for barrels in the butts
Six barrel pistol wooden butt
Double barrel pistol all steel to take apart and make a pair
Three barrel—all steel.
Four barrel—all steel.

Guns and Rifles". This system of revolving capstan head was the prototype of such weapons as the popular American four-barrelled Sharps' pistols, and the well-known Lancaster four-barrelled pistol on a rather similar construction. Other weapons of great ingenuity were the pistol with a sliding lock to fire five loads super-imposed and fitted with a carbine stock. This curiosity remained in the Rigby collection for at least a hundred years.

Rigby was also one of the first in the field to adopt the new Damascus barrels. The majority of his better quality arms, both guns and pistols, were made of the coarse Damascus variety and deeply acid-etched to increase their beauty. Some of the most spectacular of all the weapons he made were double-barrelled blunderbusses on the over-and-under principle constructed with oval muzzles which flared-out very widely. They had a spring bayonet underneath. An example of one of these in the National Museum in Dublin is described as one of the finest pieces of gun-making ever produced by this firm, made throughout in the finest quality, the barrels gracefully swamped and acid-etched, and fitted with heavy platinum vents below the nipples causing these guns to be amongst the finest blunderbusses ever made. During this same period were constructed a series of pistols, both single and double-barrelled, which had a magazine in the butt to hold spare balls and percussion caps. It was situated in the top of the grip and covered by a hinged metal plate running from the tang of the barrel right to the tip of the butt. The result was both neat and practical, and



Rigby six barrel pistol with hand revolved striker head.

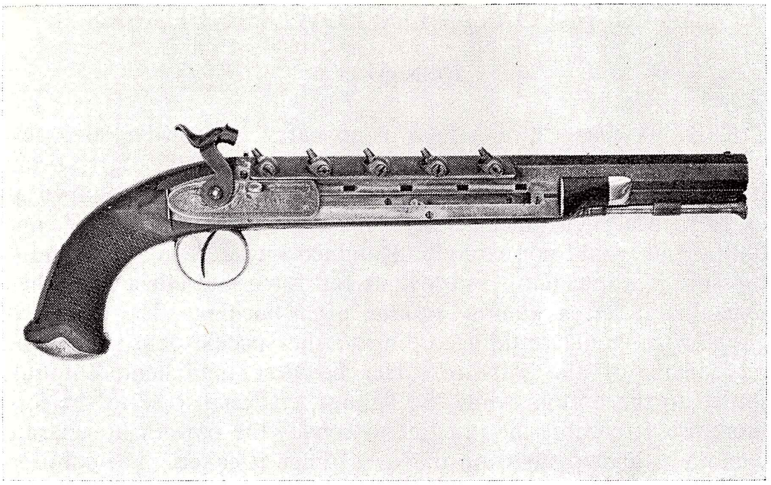
the metal strap acted as a reinforcement to the strengh of the stock. Many of these pistols had side-by-side barrels fired with a single trigger action. Some others were made on the turn-over principle and had the addition of a spring bayonet. A few very small waistcoat pocket pistols, with screw barrels and folding triggers, were made entirely of steel, the stocks being hollowed out to form a ring wrench for unscrewing the barrel of the companion pistol.

Another most unusual weapon developed by Rigby, was a six-shot, hand-revolved carbine, the six barrels being arranged in a block similar to the later pepperbox pistols, but the gun itself was fitted with a normal side lock and had to be cocked each time a new barrel was turned into place. This ingenious weapon was the forerunner of the pepperbox revolver. In this field, Rigby was again supreme. His pepperbox revolvers were better quality and better designed than those of any other maker. The principal feature was the method of detaching the barrels which was achieved by pressing in two catches situated on either side of the frame. In this way a spare set of barrels, already loaded, could replace the discharged ones in a matter of seconds. A further excellent device was the supporting spindle of the barrels which was intended to be used as a ramrod.

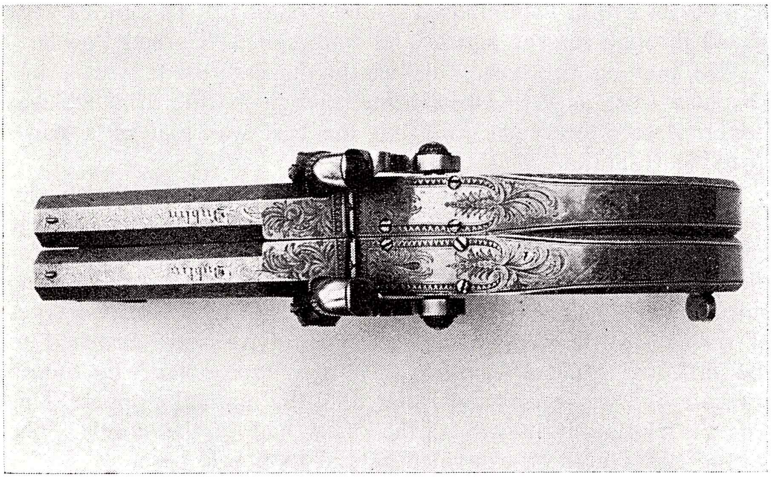
Last but not least, there is a series of pistols which, so far as the writer is aware, are peculiar to Rigby and his own original design. These weapons consist of a pair of all-steel pistols, the locks being right and left-handed respectively, have on the inside of their frames dove-tailed grooves allowing the two pistols to be joined together to form one solid double-barrelled weapon. So cleverly are these pistols designed that when the two are assembled their individual triggers are set one behind the other to form a perfect double-barrelled action. When taken apart with their left and right-hand locks, they form two slender all-steel pistols which would fit comfortably into the belt. They are made of the highest quality with deeply etched Damascus barrels, the steel stocks and actions being finely engraved and fire-blued.

Rigby's own style of engraving gives all his weapons a character of their own, with bold scrolls, the name signed in gothic lettering on a cartouche.

When the more glamorous flintlocks were superseded by the percussion-capped pistols, the majority of gunsmiths produced a rather staid and sombre-looking arm, efficient and functional but lacking in charm. Rigby, on the other hand, succeeded in making his weapons not only functional, but attractive and full of character. To the modern collector, he can be said to have put sex-appeal into the percussion system.



Rigby five shot pistol for firing superimposed loads using a sliding lock.



Rigby 'pair' of single barrel all steel pistols joined together as a double pistol.

All photographs from the author's own collection.

A FEW POINTS ON POWDER FLASKS

JOHN MILLAR

THE PRIME OBJECT of a flask is to carry gunpowder so a few words on gunpowder wouid not go astray here at the start. From its discovery until 1400 is was a fine dust and was also known as as "serpentine" or "meal". If it was exposed to damp it became lumpy and would not explode. Rammed into a barrel with undue pressure it would lump and lose its full force and effect and when exploded it left a gummy residue after burning. The fine dust gunpowder would settle according to the specific densities of the ingredients of the mixture. The heaviest ingredient, sulphur, settled to the bottom while the lightest, charcoal, rose to the top, therefore, it became the practice to convey the powder in separate containers and to stir it on the spot. Then it caked. The solution came in 1400 in a process for "corning" or graining gunpowder.

In 1429 Konrad von Schongan in his "Book Of Gunfire" describes the solution. The ingredients were wetted and thoroughly mixed into a paste. The paste was pressed into cakes and dried. The cakes were then crushed and chipped into fine grain by rolling in a barrel with a two hundred pound stone ball. The grains were sorted through screens to size and were called "Corned Powder".

In making the paste, the wetting agent used was urine. Disputes arose as to the best urine, though a wine drinker's was preferred to a beer drinker's, but the best was that of a wine-drinking Bishop!

With the introduction of corned powder, serpentine powder remained in use for priming. Two flasks were now carried, a large one for the corned powder or propellant, and a small flask for the serpentine powder or priming. With corned powder, spring closures came into use for powder flasks and by 1550, two types of spring closure were in service. Both types were fastened to the flask and could not be lost. The first type opened by thumb pressure and was easier and faster than the manual stopper. This was the closing by a cap at the distal end of the nozzle. The second type closed by a pivoted gate at its nozzle base.

The carrying of gunpowder progressed from the flask to the bandolier and then to the cartridge box. While the bandolier and the cartridge box were restricted to military use, the powder flask remained the more popular form for shooters.

The peasantry used simple horns with the large end blocked and a stopper in the small end. This is the powder horn rather than the powder flask. Cattle were numerous and cow horns

common, softened in boiling water it could be flattened and its surface could be carved or left rough. Iron hooks could easily be attached for slipping the horn on to a belt. Adaptable, easily obtainable, it became the powder container of the common man.

Ivory, shell metal and precious metals were used for the expensive flasks of the ruling groups. The golden age of the powder flask was the century of the mass-produced metal flask of the 1800's.

Designs then made their appearance with fluted line indentation, vertical simple lines, the shell, the laurel and the wreath. Most of these designs were mainly intended to increase the surface strength. Decoration and ornamentation followed and there appeared the hunter, birds, eagles, hanging fowl, game, deer, horses, dogs, foliage, oak leaf, acorn, fish, animals, squirrels, rabbits and the lion.

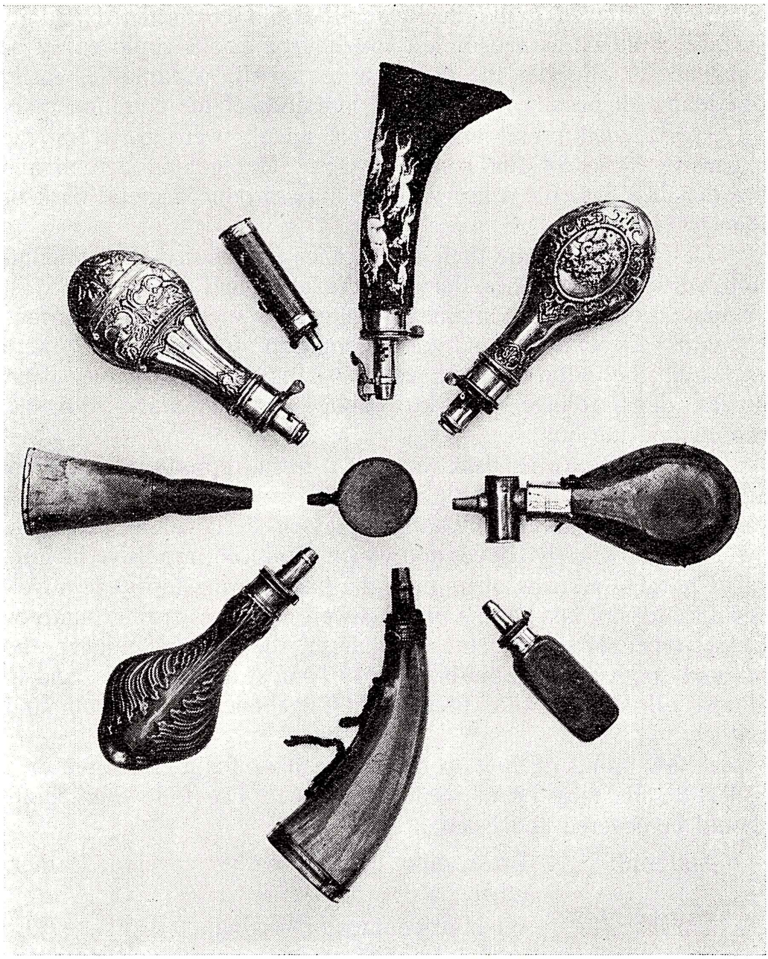
The metal powder flask was an art form, reproduced paintings and embellished flasks with allegorical ornaments. Added to it were bows and knots and hanging tassels designed to catch the eye of the prospective buyer and which produced impulsive buying.

Charging systems other than the basic spring top were novelties and did not last. Some of these were the cross-spring pump or Gosset type, some the detached charger, the straight plunger, the bulbous spout and the double spout. Almost all materials, and in almost all shapes were used including bone, wood, nuts and leather.

A few points on how to describe a flask for a catalogue or a collection file may be of some assistance. The following points should be covered and listed:

Material:	Brass, zinc, copper, leather covered, leather, other.
Finish:	What percentage of original.
Flask Size:	Measured from bottom to top, omitting charger. Used for—Pistol, Rifle, Shot Gun.
Manufacturer:	Name, Location.
Design:	Front of flask, Back of flask.
Charger:	Plain, Plunger, Graduated.
Top:	Screw, Patent, Plain.
Condition:	Dents, Seams, Missing parts, Carrying cord.
Conclusion:	Unique, Rare, Scarce, Ordinary. Perfect, Very Good, Good, Fair, Poor.

Knowing the prices that powder flasks are fetching these days, it is most interesting to see the prices at the time of manufacture.



Items from Collection of Mr L. C. G. Perham.

Centre:

Continental Lanthorn Priming Flask

From top—clockwise:

18th Century Carved Staghorn Flask (French)
Three Horses' Heads Flask by Hawksley
European Horn Cross Charge—Martial Flask
Scent Bottle Pistol Flask by Dixon
Continental Flattened Horn Flask
Leaf Pattern Flask by Sykes
Horn Flask with Screw Top Measure (European)
Embossed Pattern Flask by Hawksley
Cased Pistol Flask by Bartram

The first price list is taken from one published on January 1st, 1864, by the American Flask & Cap Company, Waterbury, Connecticut.

COMMON POWDER FLASKS

2oz Bush Pattern	$1.75 per doz.
2oz Eagle Pattern	$2.25 per doz.
4oz Dog Pattern	$2.50 per doz.
4oz Eagle Pattern	$3.12 per doz.
6oz Fighting Cock Pattern	$2.75 per doz.
8oz Assorted Shell and Rabbit Pattern	$3.00 per doz.
8oz Rabbit Pattern with Patent Top	$4.50 per doz.
8oz Wreath & Deer Pattern	$3.75 per doz.
8oz Wreath & Deer Pattern with Patent Top	$5.00 per doz.

Some prices from Geo. and J. W. Hawksley Ltd., Sheffield, 1840-1847 (taken over by James Dixon and Sons).

Strong Copper Powder Flask, Screw-off top, 4 rings, cords, tassels, 8oz—120/- per doz.

Strong Copper Powder Flask, Screw-off top, no rings, cords or tassels—96/- per doz.

John Mills in the "Sportsmans' Library" published in 1848 cautions:

"Upon pushing back the spring, to charge the top, it should be allowed to fall back again with a somewhat gentle action, and not with a sudden snap, for I have known the spring to fly from the jar, and you can obtain a more certain quantity at the first attempt and thus save unnecessary trouble and loss of time in loading.

"I shall therefore suggest the policy of never holding the flask in your hand when firing off your gun. This may take place; when after firing off one barrel, fresh game should be sprung while in the act of loading it. In this case, either pocket your flask, or throw it on the ground previously to taking your level and no danger can arise from the chance of its explosion."

In conclusion, a word of warning, as expressed in verse by

Watt in 1839, to the enthusiasts who go in for muzzle loading shooting:

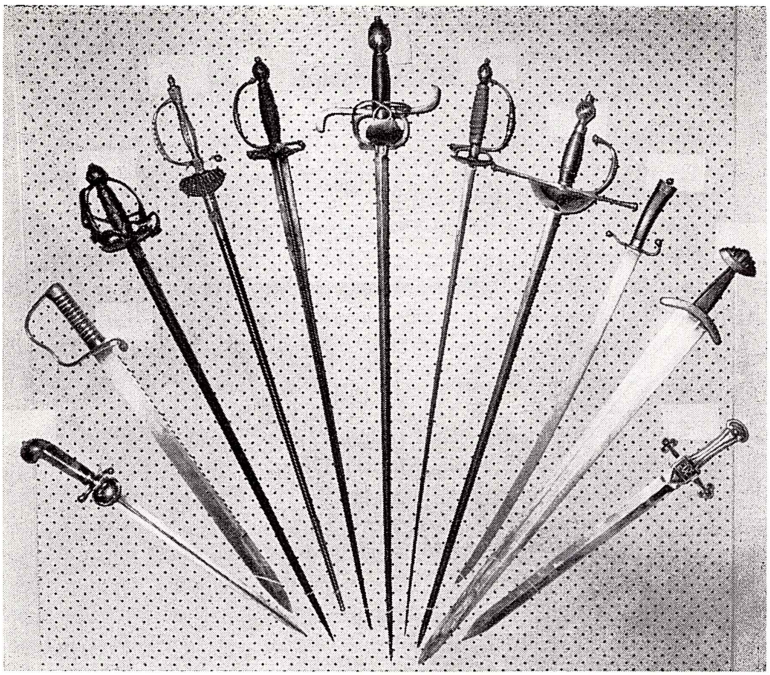
"Your keenest caution let me ask,
Whene'er you choose your powder flask.
See the partition is air-tight,
Or all the powder may ignite
While loading, if you leave but one
Insidious spark within the gun.
There ought to be a jointed slide
Affix'd, to move the charge aside,
So that the hand, as you'll discern,
Need never O'er the muzzle turn.
By this contrivance you're as free
From danger as you well can be,
And weak, indeed, is ev'ry man,
Who sneers at this ingenious plan".

THE PERFECT SQUELCH

A battery sergeant-major of the Royal Artillery was guiding a group of new recruits through a display of enemy trophies of war. Pointing out a World War I German piece, he said "And that, gentlemen, is a 'owitzer."

A young upstart, straight from a public school interrupted to say: "I say, Sir, you mean howitzer, don't you?" Ignoring the interruption, the B.S.M. continued:

"Hit may be hinteresting to hobserve that a good deal of the base and mount of this piece is made of lignum vitae, the 'ardest wood in the world. Hit is in fact so strong that hit is sometimes used for making piles for piers. And for the benefit of the interrupting bastard in the rear, I don't mean 'emorrhoids for haristocrats."



A representative group of antique swords displayed at the N.Z.A.A.A.I. Convention 1968 from Mr C. K. Atkinson's collection.

From left to right: Hunting Sword 18 C., Naval Cutlass 19 C., Mortuary Sword 17 C., Dress Sword 19 C., Colichemarde 17 C., Pappenheimer 17 C., Duelling Sword 18 C., Cup Hilt Rapier 17 C., Pillow Sword 18 C., Viking Sword 10 C. (Repro.), Band Sword 19 C.

CHOSE YOUR WEAPON

Then there's the member from New Brighton who applied to the police to register a pistol. During his absence from home the police called to inspect the weapon, and explained the situation to his wife.

"Just a moment," she said, and disappeared, to reappear with an armful of assorted pistols.

"Which one was it?" she asked

IS YOUR COLLECTION REALLY INSURED?

C. K. ATKINSON

IN VIEW of the scarcity and high price of antiques today, all members are recommended to make sure that their collections are adequately covered by insurance.

The following brief notes are written as a general guide because it is felt that some members may not fully understand their position and may think that they are covered for most risks, when in fact their particular policy is practically worthless.

One of the commonest mistakes made is to think a collection is adequately covered merely because the owner holds a Fire Policy over his house and effects.

The snag in this case is that unless the articles in the collection are itemised and a value placed on each at time of taking out or increasing this insurance, the amount of the claim paid (if it be paid) will only amount to a small percentage of the total policy, or an equally small fixed sum irrespective of the value of the missing item. A careful search of the microscopic small print on the back of such a policy will usually state this figure. Secondly, this type of policy is too limited in its cover to be of any significant use to the collector.

Another erroneous idea is to think that when a policy bears the label "Comprehensive" or "All Risks" it means just that. The fact is there is no such thing as an "All Risks" policy in its true sense, because all policies are subject to numerous exceptions. It is consequently very necessary to know and understand what these execptions are so that the policy may be seen in its true perspective.

To avoid pitfalls and disappointment, it is recommended that members take out an independent policy to cover their collections. In this case all articles should be itemised, clearly described, and valued by a competent second party rather than by the owner. One copy of this list should be carefully retained and the other held by the chosen Insurance Company.

When taking out this policy, it is also prudent to ensure that a provision be written into same to allow for additions to the collection up to a certain figure during each year. On date of renewal, these lists should be revised to allow for such additions and any increase in general values.

Reliable Insurance Companies offer cover to Collectors for Fire, Lightning, Burglary, Larceny and Theft but seldom cover:

(a) Loss in transit.
(b) Damage to articles.

(c) Cover if only a part of the insured item be stolen.
(d) Breakage.

The current rate for such insurances is 50 cents per $100.00 (plus Earthquake risk of .05 cents per $100.00), and the minimum Policy costs $6.00 per annum. Such a policy would give cover as stated up to a total of $1200.00.

From experience it has been found advisable to take out all insurances with the same Company. By doing so the insured can hope for better attention and service than when such insurances are split between several Companies.

Lastly, don't under insure—a few dollars spent wisely in this way can bring great peace of mind.

Mrs Connelly presenting a trophy to Mr C. E. Burmeister at the Annual Dinner of the N.Z.A.A.A.I. at The Sign of the Takahe. 1968.

DEAR SWORD

A former member who collected swords, many of them of modern vintage, ordered an admiral's sword from Wilkinson's in England. As his collecting was not very popular with his wife, because of the money he spent on it, he told his spouse that it cost a trivial sum—in the vicinity of five guineas. (This was in the days when LSD was money and not a hallucinatory drug). He happened to tell a newspaper reporter about it. however, and how Wilkinson's so seldom had an order for an admiral's sword that they had none in stock and had to make him a special one. This snippet eventually appeared in the paper with the price—18gns. By the time it arrived the sword was very dear to him.

NEW ZEALAND HELMET PLATES *(facing page)*

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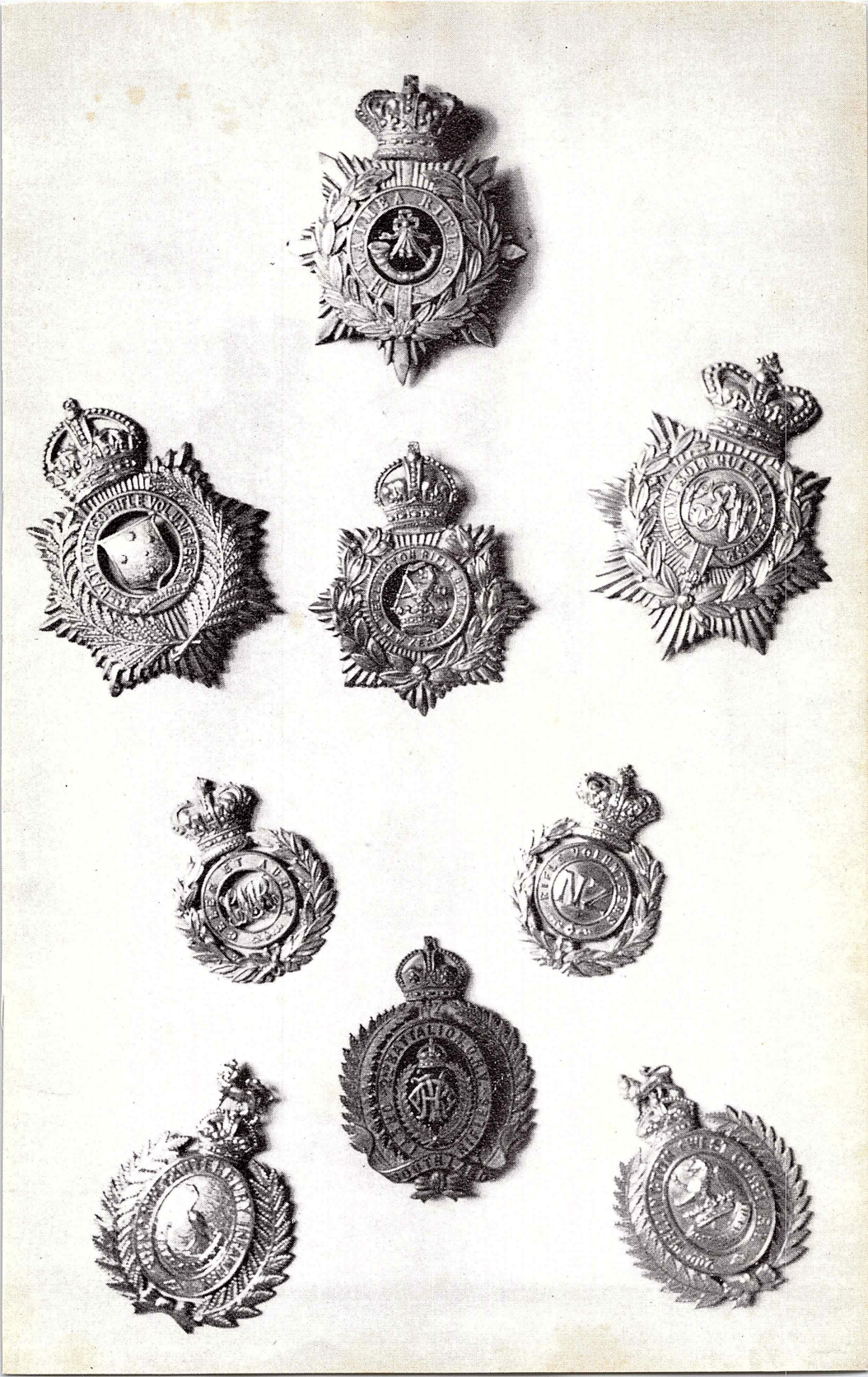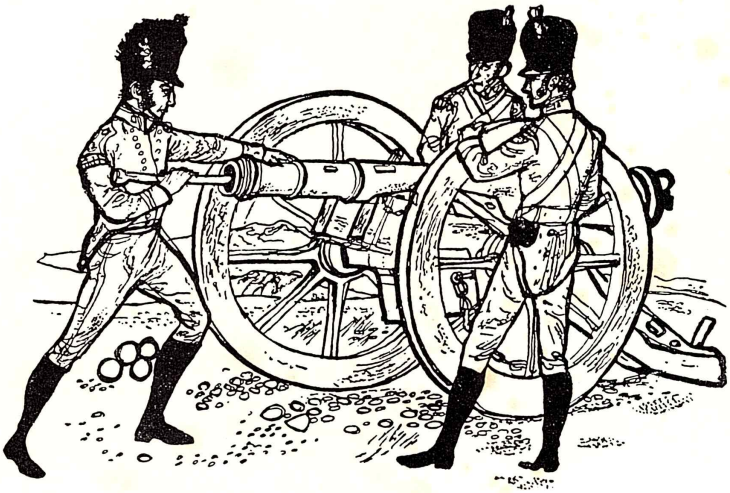
Waimea Rifles, 3rd Battalion Otago Rifle Volunteers, Wellington Rifle Battalion, Canterbury Rifle Volunteers, Canterbury Mounted Rifles, N.Z. Rifle Volunteers, 2nd Battalion Otago Rifle Volunteers, 2nd North Canterbury Infantry, 2nd Wellington (West Coast) Rifle Volunteers.